



United States
Department of
Agriculture

In cooperation with
Illinois Agricultural
Experiment Station



Natural
Resources
Conservation
Service

Soil Survey of Cook County, Illinois



How To Use This Soil Survey

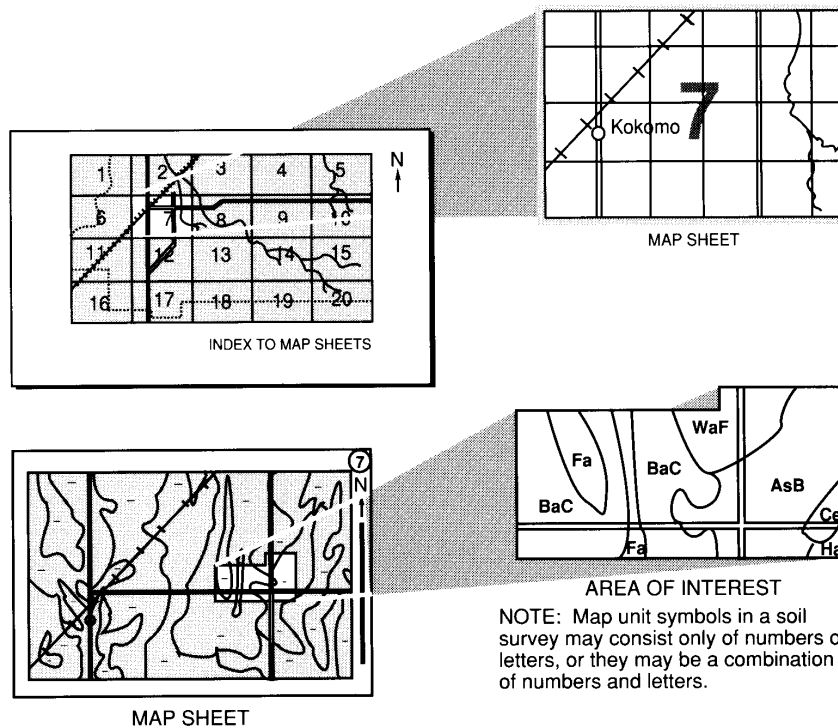
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Illinois Agricultural Experiment Station. It is part of the technical assistance furnished to the North Cook and Will-South Cook Soil and Water Conservation Districts. Financial assistance was provided by the Cook County, Illinois Board of Commissioners.

Major fieldwork for this soil survey was completed in 2011. Soil names and descriptions were approved in 2011. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2011. The most current official data are available on the Internet.

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Cover Photo Caption

Open areas in Cook County offer recreational opportunities. In the foreground is Northerly Island, formerly Meigs Field, which is along the shore of Lake Michigan. The Chicago skyline is prominent in the background.

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Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, ranchers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://soils.usda.gov/sqi/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS state soil scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each map unit is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Ivan Dozier
State Conservationist
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Soil Survey of Cook County, Illinois

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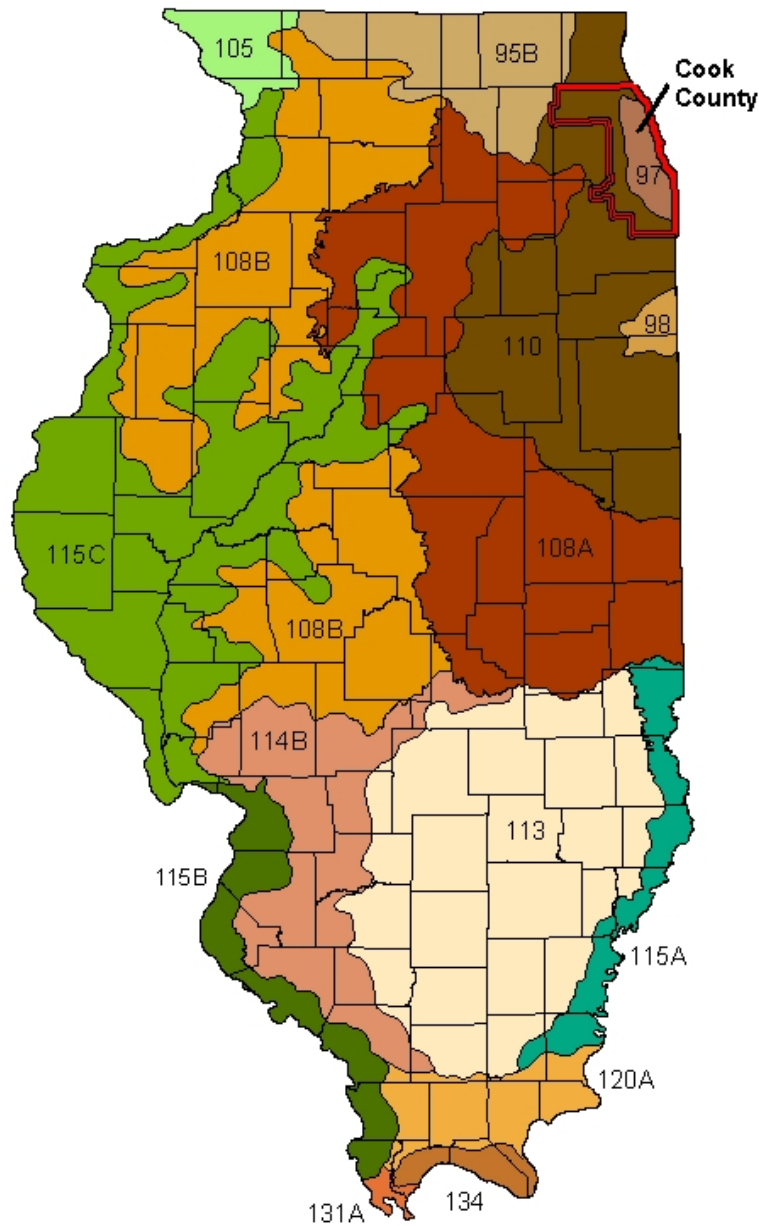
United States Department of Agriculture, Natural Resources Conservation
Service,
in cooperation with
Illinois Agricultural Experiment Station

COOK COUNTY is in northeastern Illinois (fig. 1). It has an area of 616,045 acres, or about 963 square miles. The county is bordered by Lake Michigan and Lake County, Indiana to the east; Lake and McHenry Counties to the north; Kane and DuPage Counties to the west; and Will County to the south. In 2010, the population of the county was 5,194,675 (USDC, Census Bureau, 2010). Chicago is the county seat. It is along the shore of Lake Michigan.

The survey area is a subset of Major Land Resource Areas (MLRAs) 95B, Southern Wisconsin and Northern Illinois Drift Plain; 97, Southwestern Michigan Fruit and Truck Crop Belt; and 110, Northern Illinois and Indiana Heavy Till Plain (USDA-NRCS, 2006).

This soil survey updates the soil survey of Cook County published in 1979 (Mapes, 1979). The updated soil survey provides additional information and has orthophotographic maps at a slightly larger scale. In addition, the 298,761 acres of Cook County that were not previously mapped for the 1979 publication were completed for this survey. This soil survey is available on Soil View and Web Soil

Soil Survey of Cook County, Illinois



LEGEND

- 95B--Southern Wisconsin and Northern Illinois Drift Plain
- 97--Southwestern Michigan Fruit and Truck Crop Belt
- 98--Southern Michigan and Northern Indiana Drift Plain
- 105--Northern Mississippi Valley Loess Hills
- 108A and 108B--Illinois and Iowa Deep Loess and Drift
- 110--Northern Illinois and Indiana Heavy Till Plain
- 113--Central Claypan Areas
- 114B--Southern Illinois and Indiana Thin Loess and Till Plain, Western Part
- 115A, 115B, and 115C--Central Mississippi Valley Wooded Slopes
- 120A--Kentucky and Indiana Sandstone and Shale Hills and Valleys, Southern Part
- 131A--Southern Mississippi Valley Alluvium
- 134--Southern Mississippi Valley Loess

Figure 1.—Location of Cook County and the major land resource areas (MLRAs) in Illinois.

Survey. Soil View is an interactive CD-ROM that includes tables, soils, imagery, digital topographic quadrangles, and more, with a GIS engine, to provide real functionality to digital soil data. The Web Soil Survey can be accessed through the Internet at <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>.

General Nature of the Survey Area

This section provides general information about Cook County. It describes history; physiography, relief, and drainage; natural resources; agriculture; urbanization; transportation facilities; industry; and climate.

History

In 1673, when Pere Marquette and Louis Joliet explored the survey area, the Potawatomi Indians were the main inhabitants. Other inhabitants were small bands of Illinois and Ottawa Indians. Until the 19th century, water transportation proved the smoothest and fastest method of transportation through North America. Because of the importance of navigable waterways, connections between these waterways were also significant. Portages were small parcels of land that connected water bodies. Explorers were able to carry their boats and other equipment between waterways. In northeastern Illinois these portages connected the Great Lakes system with the Mississippi River system. Marquette and Joliet discovered a portage that connected the Chicago River to the Des Plaines River, located southwest of Chicago (Solzman, 2005). These waterways and the paths that linked them were important for the fur trade. In 1795, the United States Government obtained land through the Treaty of Greenville. Fort Dearborn was built at the mouth of the Chicago River between 1803 and 1804 to ensure the safety of the fur trade. It was burned down by Native Americans during the War of 1812 and rebuilt in the same spot in 1816. The fort had outlived its usefulness by 1840 but was not torn down until 1857. There is now a bronze marker in the pavement at Michigan Avenue and Wacker Drive to mark the approximate site of Fort Dearborn (Keating, 2005b).

The first settlers began to arrive in the survey area in the early 1800s. The construction of Fort Dearborn brought more soldiers and traders. As more settlers and traders passed through the Chicago Portage area, the communities of Lyons and Riverside developed. These towns were the center of population until about 1833. Cook County was created in 1831 by an act of the Illinois State Legislature. The county was named after Daniel Pope Cook. Cook was one of the earliest statesmen in Illinois history who worked hard for statehood. He served as the second U.S. congressman from Illinois and the first Attorney General of the State of Illinois (Keating, 2005a).

Chicago's landscape has been altered and expanded throughout its history. The expansion and the diversion of the Chicago River, the Great Chicago Fire, and the construction of the Chicago tunnels all impacted the natural topography (Dorantes, 2010).

The Illinois and Michigan Canal, built between 1836 and 1848, had a huge impact on Cook County and the Midwest. It was the first large scale transformation of the Chicago River. It stretched about 100 miles, from Chicago to LaSalle-Peru, Illinois. The canal opened in 1848 and provided a link between the eastern and midwestern parts of the country. It connected the waters of Lake Michigan with those of the Illinois and Mississippi Rivers. Many communities sprang up along the canal's route. The route provided farmers a way to transport their crops. Large quantities of corn and wheat were shipped by canal. Lumber, beef, pork, stone, coal, sugar, and salt were other commodities shipped on the canal. The canal brought people and prosperity to the region. It transformed the region into a hub for goods and people traveling throughout the country. The Illinois and Michigan Canal now is used for recreational purposes. The towpath trail along the canal is now a State park that runs through a rural and

wooded landscape for about 61 miles. The Illinois and Michigan Canal National Heritage Corridor encompasses portions of 49 municipalities, sections of 5 counties, and 18 neighborhoods in Chicago (Canal Corridor Association, 2009).

The Great Chicago Fire of 1871 burned down a 4-square-mile area of the city in which 18,000 buildings were destroyed. Debris from the fire was used as fill to extend the lakefront, including a portion of Grant Park.

The construction of a freight tunnel began in 1901. Soil from this construction was loaded into tunnel cars for disposal along the lakefront. Approximately 2,000 cubic yards of excavated material was dumped daily at present-day Grant Park. Eventually, the excavated material formed the foundation for the Field Museum. Quarries and natural wetlands were also used as dumping grounds. Wetlands were viewed as a threat to public health and were not protected. Refuse disposal on the lakefront was banned in 1910. Open landfills were used instead of the lakefront and, later, closed sanitary landfills were established (Dorantes, 2010).

Cook County was also impacted by the railroad, which brought people, goods, and services to the area. The first railroad was the Galena and Chicago Union, which was chartered in 1836. The first tracks were laid in 1848 to a point known as Oak Ridge (now Oak Park). With the development of the rail system, farmers were able to transport their grains and livestock to the city. This encouraged the growth of the grain marketing and meatpacking industries. Chicago was a major hub for freight traffic, and many of the railroads had their headquarters just west of Chicago. As a result, Chicago became the center for the manufacture of freight, passenger, and diesel locomotives. Companies such as the Pullman Company and the Electro-Motive Division of General Motors were based in Chicago. Chicago is still the Nation's largest rail hub for people and goods going east and west. It is the hub of Amtrak. Chicago ranks second, behind New York, in terms of volume of commuter rail passengers transported each day (Hudson, 2005).

Physiography, Relief, and Drainage

The major topographic features of the Chicago region can be divided into four categories: 1) the morainic uplands to the north, west, and south; 2) the lake plain partially enclosed by these uplands; 3) the shore features of Lake Chicago and, eventually, Lake Michigan; and 4) the stream-occupied valleys (Bretz, 1955). The surface features of the Chicago area are the result of glaciation. The surficial geology of the region is predominantly depositional moraines, outwash plains, valley trains, filled lake basins, river flood plains, and sand dunes. Erosional processes have not had enough time to cut through the glacial deposits. Compared to older glaciated areas where few surface features remain due to erosion, the Chicago area geology is youthful. The only erosional features are cliffs along the shoreline and the small valleys created by streams (Willman, 1971).

Cook County is part of the Wheaton Morainial Country and the Chicago Lake Plain subsections of the Great Lakes Section, which is a subdivision of the Central Lowland Province. All of the Chicago region also lies in the Great Lakes Section, in the central part of the Central Lowland Province (Leighton and others, 1948). The Central Lowland Province is a low, glaciated area that spans from the Appalachians in the east to the Great Plains in the west and from the Superior Upland in north to the Interior Low Plateaus and the Ozark Plateaus in the south (Willman, 1971). The Great Lakes Section is composed of Wisconsinan-age glacial drift that is the youngest in Illinois. It is characterized by numerous lakes and rough-surfaced moraines (Willman, 1971).

The Wheaton Morainial Country occupies the northern and southern parts of Cook County and a little part on the western edge of the county. This subsection is comprised of different morainic systems, including the Valparaiso and Lake Border morainic systems and the Tinley Moraine. It has many of the geologic surface features that are formed by continental glaciers, such as glacial lakes, kames, and eskers

(Willman, 1971). The Valparaiso morainic system makes up most of the western uplands and contains the highest points in the region (Bretz, 1955). It also exhibits rough knob and kettle topography (Willman, 1971).

The Chicago Lake Plain was the base of glacial Lake Chicago. It covers the area behind the Tinley Moraine. The lake plain is extremely flat, with elevations ranging between 580 and 640 feet due to the three lake stages (Willman, 1971). The Glenwood lake stage is the oldest and had the highest level, at 640 feet. The Calumet lake stage is the second oldest and was at an elevation of 600 to 620 feet. The Toleston lake stage is the youngest and had the lowest elevation, at less than 600 feet. The lake plain has not undergone the erosional processes from the major rivers—the Des Plaines, Calumet, and Chicago. These rivers flow almost on the surface of the plain (Willman, 1971). The lake plain does have low ridges that used to be sand spits or bars in the lake. The borders of the lake plain are marked by moraine topography (Willman, 1971). The Tinley Moraine begins a mile east of Mundelein and runs southeast by south to Chicago Heights and then is oriented nearly east to west (Bretz, 1955). The Lake Border morainic system is the northern boundary but it is not as distinct because the lake plain extended up the Des Plaines and Chicago Rivers between the moraines.

An interesting feature of Cook County is the Des Plaines Valley Train. This geology is located along the Des Plaines River flood plain. It cuts through the old lake plain and is characterized by a mixture of dense, clayey lacustrine deposits and sand and gravelly deposits.

Land-surface altitude exceeds 900 feet above the National Geodetic Vertical Datum of 1929 (NGVD29) in the northwest corner of the county (fig. 2). It ranges from less than 580 feet to 640 feet in the area behind the Tinley Moraine that extends to the Lake Michigan shoreline (fig. 3). This area is occupied by the Chicago Lake Plain.

Most of Cook County is drained by the Des Plaines, Calumet, and Chicago Rivers. The flow of the Chicago and Calumet Rivers has been changed through engineering. Instead of draining into Lake Michigan, these rivers are connected to the Des Plaines River by two canals—the Chicago Sanitary and Ship Canal and the Calumet-Sag Channel. The flow of the three rivers is now westward. A small area in the northern part of Cook County along Lake Michigan drains directly into Lake Michigan (Mapes, 1979).

Natural Resources

Cook County has large deposits of building materials, specifically stone, gravel, sand, and clay. Production by the mineral industry, based on these resources, is economically significant. The Thornton Quarry, located in Thornton, is one of the largest limestone quarries in the world. It is composed of three separate lobes. The McCook Quarry, located in McCook, is one of the largest quarries in the Midwest. Both quarries are aggregate quarries that are mined for dolomite rock that is crushed, sorted, and used in construction material. Both have been active for more than 100 years and are vital to the local economy, providing jobs and millions of dollars in State revenue.

The till and clayey lake deposits of the Lake Chicago plain have been used for many years in the manufacture of common brick (Mapes, 1979). Large quantities of brick were produced at plants on the southern edge of the city, such as Blue Island. By the beginning of the 20th century, many of the area's brickyards were controlled by the Chicago-based Illinois Brick Company. This company operated 10 years and had an annual output of about 685 million bricks. In the latter part of the 20th century, however, the economic importance of brick making had declined. The slow pace of Chicago's growth and technological advances drove down the cost of bricks and the number of people needed to produce them. As a result, brick production was no longer one of Chicago's largest businesses (Wilson, 2005).

Soil Survey of Cook County, Illinois

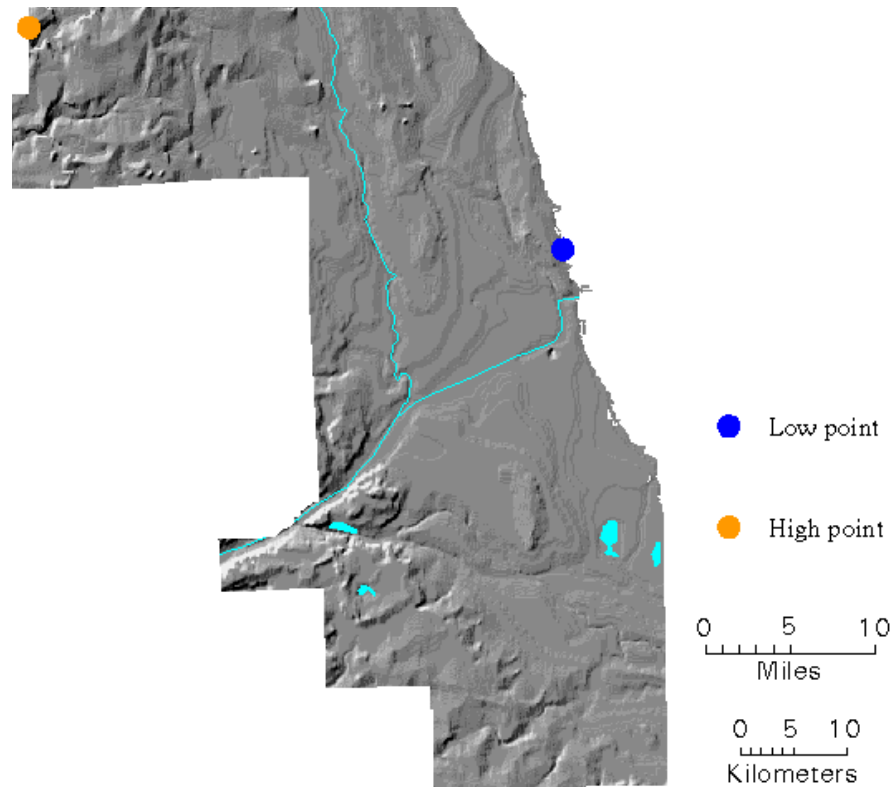


Figure 2.—A generalized relief map of Cook County showing the location of the highest and lowest points in the county. The blue dot represents the lowest elevation, less than 580 feet above mean sea level, along the shore of Lake Michigan. The orange dot represents the highest elevation, more than 950 feet above mean sea level. (Source: Illinois State Geological Survey, <http://www.isgs.illinois.edu/education/hi-low/cook.shtml>)

Water is a major resource in the survey area. Enormous quantities are used from both ground-water and surface-water sources. Lake Michigan (fig. 4) supplies water to more than 150 communities and the city of Chicago. Although the supply of water is almost unlimited, the distribution of water and the protection of Lake Michigan from pollution are concerns. The Metropolitan Water Reclamation District (MWRD) of Greater Chicago is one of the world's largest residential and industrial wastewater treatment agencies. This agency is in charge of protecting the water supply source in the region. It serves an area of 883 square miles, including the city of Chicago and 125 suburban communities, providing water to about 10 million people. MWRD's Tunnel and Reservoir Project (TARP), also known as the Deep Tunnel Project, is one of the country's largest public works projects for controlling pollution and flooding. There are 4 tunnel systems that total 109 miles. These tunnels are 9 to 33 feet in diameter and 150 to 300 feet underground in the dolomitic limestone bedrock. These tunnels will collect combined sanitary and storm sewer flows and route them to surface reservoirs for storage until the MWRD plants can treat and safely discharge the effluent. One lobe of the Thornton Quarry and the McCook Quarry will be a reservoir connected to the deep tunnel (MWRD of Greater Chicago, 2010).

Agriculture

Because of urban development, agriculture has been declining in the survey area for decades. Acreage in agriculture in 2007 was only 8,198 acres, down 66 percent

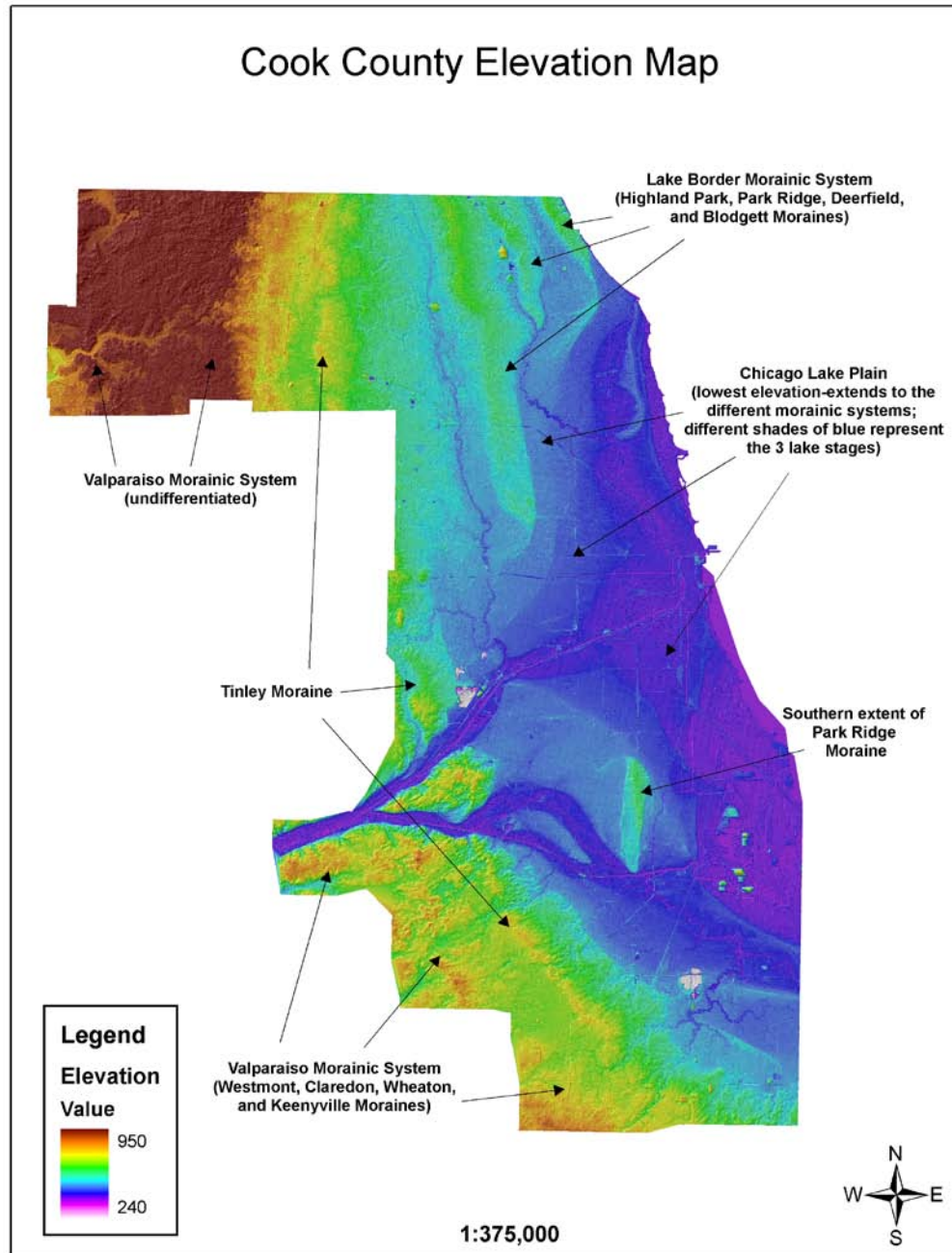


Figure 3.—A generalized elevation and landform map of Cook County.

from 23,836 acres in 2002. In 2007, there were 184 farms with an average size of 45 acres; in 2002, there were 211 farms with an average size of 113 acres. In 2007, market value of production was 15.3 million dollars; in 2002, it was 21.3 million dollars. In 2007, the average per farm value of production was 82,988 dollars; in 2002, it was 100,867 dollars. The major crops are nursery, greenhouse, and floriculture plants and sod and are associated with increased urbanization (USDA, National Agricultural Statistics Service, 2007). Even though traditional farms have been declining in numbers for decades, urban farms have been increasing. Urban farms (fig. 5) are becoming more common because there is a high demand for local food sources



Figure 4.—Lake Michigan, which is an important source of surface water and ground water and also provides recreational opportunities.

and more open space. Urban farms have taken the place of vacant lots and are also located in parks around the city.

Urbanization

In 1831, Chicago (formerly Fort Dearborn) became the county seat of Cook County. A few years later, Chicago was incorporated as a town with a population of 200 people. By 1840, the population of Cook County was 10,201 (Mapes, 1979). Following the arrival of railroads to the area, the population increased rapidly. By 1870, the population of the county was 349,966; by 1900, it was 1,838,735; and in 1980, it peaked at 5,492,369. In 2010, the population of the county was 5,194,675, which is a 3.4 percent decrease from 2000 (USDC, Census Bureau, 2010).

Transportation Facilities

Many major highways and railways provide transportation in Cook County. All transportation routes are connected to Chicago, from which point the rest of the survey area is readily accessible.

Cook County has a well developed, multimodal transportation system. The county is served by Illinois State Highways 1, 7, 19, 21, 38, 43, 50, 53, 56, 58, 64, 68, 72, 83, 171, and 394; U.S. Highways 6, 12, 14, 20, 30, 34, 41, and 45; and Interstates 55, 57, 80, 88, 90, 94, 290, and 294. It also has a well integrated county highway system that provides connections between incorporated and unincorporated areas.

Facilities for ship and barge traffic are available. The Chicago Sanitary and Ship Canal joins the Illinois River system and Lake Michigan. The Calumet Sag Channel also serves as a route for barge traffic from the Chicago Sanitary and Ship Canal to Lake Michigan. Lake Michigan gives the Chicago area a direct link, via the St. Lawrence Seaway, to ocean-traveling ships carrying raw materials and manufactured goods. Chicago and Lake Calumet contain the main harbor facilities (Mapes, 1979).

Cook County is served by commercial and passenger (AMTRAK) rail service. Most commercial rail cars seldom travel cross-country without passing through Chicago,

which is headquarters to the largest intermediate switching terminal railroad in the United States. Local and regional passenger transportation is coordinated by the Regional Transportation Authority (RTA) and includes Metra, elevated train, and Pace buses that serve Cook County and other counties in northeastern Illinois.

The county is served by three airports: Midway and O'Hare International Airports in Chicago and Gary/Chicago International Airport in Gary, Indiana. Several major general aviation airports also serve Cook County. These airports serve local recreational and business flying needs.

Industry

Cook County has a strong traditional economic base that includes tourism, manufacturing, health care, retail sales, food processing, construction, education, and administrative jobs. The survey area provides jobs in the medical field, teaching, and manufacturing as well as restaurant jobs and other retail- and service-oriented jobs. Housing construction is very important in nearly all parts of the county. Other businesses and industries have developed in many Cook County municipalities and account for many of the traditional jobs (USDC, Census Bureau, 2002).

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Park Forest in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.



Figure 5.—An urban farm in Chicago. Urban farms provide local sources of food.

In winter, the average temperature is 25.1 degrees F and the average daily minimum temperature is 17.3 degrees. The lowest temperature on record, which occurred at Park Forest on January 20, 1985, was -27 degrees. In summer, the average temperature is 71.7 degrees and the average daily maximum temperature is 81.7 degrees. The highest temperature, which occurred at Park Forest on August 2, 1988, was 103 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is about 38.65 inches. Of this, 26.4 inches, or about 68 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 6.55 inches, recorded at Park Forest on July 18, 1996. Thunderstorms occur on about 38 days each year, and most occur in July.

The average seasonal snowfall is 32.6 inches. The greatest snow depth at any one time during the period of record was 23 inches, recorded on January 27, 1967. On an average, 45 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 14.0 inches, recorded on January 26, 1967.

The average relative humidity in mid-afternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 81 percent. The sun shines 65 percent of the time in summer and 45 percent in winter. The prevailing wind is from the west. Average windspeed is highest, 11 miles per hour, from January through April.

How This Survey Was Made

Soil surveys are updated as part of maintenance projects that are conducted for a major land resource area (MLRA) or other region. Maintaining and coordinating soil survey information within a broad area results in uniformly delineated and joined soil maps and in coordinated interpretations and map unit descriptions for areas that have similar physiography, climate, and land use.

Updated soil survey information is coordinated within the major land resource area or other region and meets the standards established and defined in the memorandum of understanding. Soil surveys that are consistent and uniform within a broad area enable the coordination of soil management recommendations and a uniform program application of soil information.

This survey was made to provide information about the soils and miscellaneous areas in the survey area, which is a subset of MLRAs 95B, 97, and 110. The information includes a description of the soils and miscellaneous areas, their location, and a discussion of their suitability, limitations, and management for specified uses.

Soil scientists observed the steepness, length, and shape of the slopes; the degree of erosion; the general pattern of drainage; the kinds of crops and native plants; the kinds of parent material; and land use history and its impact on soil formation. They made borings and dug holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the

landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict, with a considerable degree of accuracy, the kind of soil or miscellaneous area at a specific location on the landscape. The soil scientists also had to take into account the human influences on the soils. They needed to determine the extent and depth of cutting and filling, the origin of the fill, and how the fill was laid down.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries. After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies onto aerial photographs and identified each as a specific map unit.

This soil survey for Cook County consists of both update and initial fieldwork. The first modern soil survey of the county was published in 1979 and covered roughly half the county. An update of previous fieldwork was completed in 2008. The fieldwork for the update consisted primarily of soil transects conducted by soil scientists. Soil transects are a systematic way to sample a specific soil type. They use soil borings taken at regular intervals. The initial soil survey of Cook County was started in 2008 and completed in 2011. Fieldwork for the initial project primarily took place in parks, school grounds, cemeteries, forest preserves, golf courses, and empty lots. Soil scientists took soil borings and dug soil pits. In the forest preserves, golf courses, and cemeteries, the natural landforms could be determined where there was minimal human disturbance. Soil lines could then be delineated based on the soil-landscape model. Urban soil surveys are conducted differently than traditional nonurban soil surveys. The high density of impervious surfaces limits the amount of observation sites. In addition, the soil-landscape relationship cannot be easily determined because the landforms have been developed. Where the soil-landscape relationship cannot be easily determined from fieldwork, other methods are employed. The tools which were utilized included historical native vegetation maps, geology maps, slope maps, historical aerial photographs, and impervious surface data layers.

For both the update and initial soil survey fieldwork, soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates; kind and amount of rock fragments; distribution of plant roots; reaction; and other features that enable them to identify soils. This information can then be used to run statistical analysis for specific soil properties. These results, along with other observations, enable the soil scientists to assign the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some soils in the area are collected for laboratory analysis and for engineering tests. Soil scientists interpret the data from the analysis and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are

Soil Survey of Cook County, Illinois

modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil by the University of Illinois Agriculture Experiment Station.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict, with a fairly high degree of accuracy, that a given soil will have a high water table within certain depths in most years. But they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

The aerial photography used as base maps in this soil survey was taken in 2005. After soil scientists located and identified the significant similar bodies of soil in the survey area, they delineated the boundaries of these bodies on a digital layer in a GIS database. These delineations were then identified as a specific map unit. The aerial photography shows trees, buildings, fields, roads, rivers, and tonal patterns, all of which help in locating boundaries accurately.

Formation and Classification of the Soils

This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

Factors of Soil Formation

Soil forms through processes that act on deposited geologic material. The five major factors of soil formation are parent material (specifically its physical and mineralogical composition); climate; the plant and animal life on and in the soil; relief; and the length of time the processes of soil formation have acted on the parent material (Jenny, 1941).

Climate and plant and animal life are the dominant active factors of soil formation. They act directly on parent material, slowly changing it into a natural body that has genetically related horizons. Relief, which includes elevation, topography, and water table levels, modifies soil formation and can inhibit it on the steeper, eroded slopes and in wet, depressional or nearly level areas by controlling the moisture status of soils. Finally, time is needed to change the parent material into a soil that has differentiated horizons. Generally, a long time is required for the development of distinct soil horizons.

The factors of soil formation are so closely interrelated and conditioned by each other that few generalizations can be made regarding the effects of any one factor unless the effects of the other factors are understood.

Parent Material

Parent material is the unconsolidated geologic material from which soils develop. The soils of Cook County formed in parent materials either directly or indirectly impacted by the Wisconsin glacialiation. Parent materials were distributed by the action of ice, water, and wind. Till was deposited directly by glacial ice, and outwash sediment was deposited by glacial meltwater. In areas where drainage was blocked, shallow lakes formed and received deposits of lacustrine sediment. Larger lakes, such as former Lake Chicago, were characterized by sandy beach ridges along their perimeter. The major parent materials in Cook County are surficial deposits of till, lacustrine sediment, outwash, and beach deposits. Less extensive parent materials are loess or other silty material, organic deposits, alluvium, and material weathered from bedrock.

The survey area is made up of four main physiographic divisions: 1) the morainic uplands to the north, west, and south; 2) the lake plain of former glacial Lake Chicago; 3) the shore features of Lake Chicago and, later, Lake Michigan; and 4) the stream-occupied valleys (Bretz, 1955).

During the glacial epoch, several glaciers advanced across the area of present-day Cook County. The entire morainic system in the survey area forms a belt roughly parallel to the shoreline of Lake Michigan. This belt is about 26 miles wide in the northern part of the county. It extends westward from Lake Michigan. It is only 6 to 8 miles wide in southern Cook County and only about 2 miles wide when it leaves



Figure 6.—A typical landscape in Cook County. The lake plain of the former glacial Lake Chicago is in the foreground, and the more sloping Park Ridge Moraine of the Lake Border morainic system is in the background.

the survey area at the Indiana State line. The eastern boundary of this morainic belt in southern Cook County is the lake plain of former Lake Chicago, approximately 14 miles southwest of Lake Michigan.

The morainic belt consists of the Valparaiso and Lake Border morainic systems and the Tinley Moraine (fig. 6). The oldest of these is the Valparaiso. It lies farthest to the west. The Tinley Moraine is east of the Valparaiso and is 6 miles wide at its widest point in northern Cook County. The Lake Border moraines, the youngest, are only in northern Cook County, east of the Tinley Moraine and adjacent to Lake Michigan.

The glaciers not only removed old soils but also deposited large amounts of freshly ground-up rock materials. The present-day soils formed in these materials. Till makes up a large portion of the glacial deposits covering Cook County. It consists of unsorted ice-deposited sediment composed of a matrix of silt, clay, and sand in which pebbles, cobbles, and boulders are embedded. The till in the county is dominantly in the Wadsworth Formation of the Wedron Group. It is a fine textured till. In its unaltered state, it is gray; when oxidized, it ranges from yellow to olive brown. Elliott and Beecher soils formed in this material. In extreme northwestern Cook County, the till consists of the Haeger Member of the Lemont Formation, which is also part of the Wedron Group (Hansel and Johnson, 1996). It is a coarse grained till and, when oxidized, is yellowish brown. Kidder and Griswold soils formed in this till member.

The plain of the former glacial Lake Chicago extends in the same general direction as the shoreline of Lake Michigan. It enters Cook County at the Indiana State line and stretches northwestward for 20 miles through southern Cook County (Bretz, 1939). The lake plain continues almost due north and encompasses all of Chicago and many of the western and northern suburbs. It extends northward to within a few miles of the Lake County line.

The ancient lake plain and the associated shorelines of Lake Chicago furnished two distinctly different parent materials: 1) coarse textured beach and near-shore deposits

and 2) fine textured slackwater and offshore sediment. Along old shorelines, rapid gradational changes may occur between the fine and coarse textured sediments. The coarse textured deposits are made up of the Henry Formation of the Mason Group. The fine textured sediment is part of the Equality Formation of the Mason Group (Hansel and Johnson, 1996).

Lake Chicago had three distinct levels—the Glenwood, Calumet, and Toleston stages. The highest and oldest is the Glenwood stage, which was approximately 55 feet above the present level of Lake Michigan. The Calumet stage was the second highest level, approximately 35 feet above the present level of the lake. During the Toleston stage, the former lake was only 20 feet higher than the present level of Lake Michigan. Beach ridges commonly mark the boundary of the former lake at its different stages. On the higher parts of the ridges are the excessively drained Oakville soils, and in the nearly level areas are the somewhat poorly drained Watseka soils. In depressions are the poorly drained Gilford soils. In areas where the sand only thinly covered the lakebed sediment or where the lakebed sediment was coarser textured near the beach ridges are the poorly drained Selma soils and the somewhat poorly drained Wesley and Hoopeston soils. Located between successive beaches of former Lake Chicago are lakebed soils in broad, generally flat areas. These soils formed in fine textured lacustrine slackwater sediments. The somewhat poorly drained Martinton and Del Rey soils formed in the nearly level areas, and the poorly drained Milford soils formed in the level or depressional areas.

Outwash was deposited by moving water in front of or under the melting ice sheets. The particle size of the material depended on the speed of the water flow. As the water velocity slowed, larger particles were deposited first. As the velocity continued to slow over a larger distance, the smaller particles were deposited. The coarser textured materials, gravel and sands, were generally deposited closest to the ice front. This stratified sediment was the parent material for the well drained Warsaw and Fox soils, the somewhat poorly drained Kane soils, and the poorly drained Will soils. In the areas containing the finer outwash sediment, the soils that formed are the moderately well drained Barrington and Zurich soils, the somewhat poorly drained Mundelein and Wauconda soils, and the poorly drained Drummer soils. The outwash deposits in Cook County are part of the Henry Formation of the Mason Group (Hansel and Johnson, 1996).

Sometime after the glaciers retreated, conditions became drier and winds increased. A layer of silty material, or loess, was deposited over the survey area directly by the winds. The primary sources of loess were the flood plains along major rivers. Some silty material in the county may be of local origin because it contains more sand than is typical for loess. Loess covers till, outwash, and lacustrine material in some portions of the county. It is less than 40 inches thick throughout most of the county. The upper part of the Mundelein and Zurich soils formed in 20 to 40 inches of loess.

Organic deposits consist of decomposed plant remnants. After the glaciers receded, water was left standing in depressions. As a result, these areas were very wet during soil formation and the decaying plant material accumulated more quickly than it decomposed. Most of the plant remains have decomposed to the point that they are unrecognizable. These organic deposits are called sapric material. Muskego and Houghton soils are examples of soils that formed in these deposits, which are part of the Cahokia Formation (Hansel and Johnson, 1996).

Alluvium consists of material and sediments deposited by streams and rivers on flood plains. The texture of alluvium varies, depending on the velocity of the water source and the texture of the sediment in the water. Sawmill and Lawson soils formed in silty alluvium.

Silurian-age dolomitic limestone underlies the unconsolidated deposits in the survey area (Willman, 1971) (fig. 7). The thickness of the overlying deposits ranges from more



Figure 7.—Exposed bedrock at an old, converted quarry in Chicago.

than 400 feet in the Des Plaines Valley in the northwestern part of Cook County to less than 3 feet in the southern part. Near Thornton, the underlying bedrock is exposed or covered by less than 3 feet of loamy material. Rockton, Romeo, and Faxon soils formed in areas where the material is relatively thin over dolomite bedrock.

Climate

Cook County has a temperate, humid, continental climate. The general climate has had an important overall influence on the characteristics of the soils. It is essentially uniform throughout the county and has not caused any major differences among the soils.

Climate affects soil formation through its effects on weathering, vegetation, and erosion. The weathering of minerals in the soil increases as temperature and rainfall increase. Water from rain and melting snow seeps slowly downward through the soil and causes physical and chemical changes. Physically, the percolating water moves clay from the surface layer into the subsoil. Accumulation of clay in the subsoil takes place in most soils in the survey area. Chemically, the percolating water dissolves minerals and moves them downward through the soil. As a result of this leaching, the free calcium carbonate has been removed from the upper layers of many of the soils in the survey area. This lowers pH to slightly acid or moderately acid in the upper layers of these soils.

Climate also influences soil formation by stimulating the growth of living organisms, particularly plant life. The climate of the survey area has favored the growth of hardwood trees and prairie grasses. Heavy, untimely, frequent rains are especially harmful and destructive if the soils are exposed during farming or construction operations. Some processes of soil formation are slower when the ground is frozen. For more information on climate, see the section "General Nature of the Survey Area."

Plant and Animal Life

Soils are highly affected by the vegetation under which they formed. Native vegetation in Cook County consisted mainly of prairie grasses and deciduous hardwood trees. Grasses have many fine fibrous roots that add large amounts of organic matter to the soil when they die and decay. The soils that formed under grasses, therefore, have a thick, dark surface layer. Varna and Elliott soils formed under grasses. In contrast, soils that formed under deciduous trees have a thinner, lighter colored surface layer. Organic matter is mainly contributed to the surface layer of these soils by leaf litter. Ozaukee and Blount soils formed under forest vegetation. Although plants have been the major living organisms affecting the soils in the survey area, micro-organisms, earthworms, insects, and other burrowing animals that live in or on the soil have also affected soil formation. Bacteria and fungi help decompose dead plants and animals into humus. Burrowing animals such as earthworms, cicadas, and ground squirrels help incorporate humus into the soil.

Human activities are also important factors in Cook County. Urban and industrial expansion has resulted in a significant amount of land being drained, cleared, excavated, graded, and filled. These practices have had a profound effect on past soil formation and on present and future soil development.

Relief

Relief, as variations in slope of the land surface, greatly influences the natural drainage of the soil and the amount of runoff, infiltration, and erosion. In Cook County, slopes range from 0 to 30 percent. Natural soil drainage ranges from excessively drained on the summits and backslopes to very poorly drained in depressions.

Relief affects the depth to the seasonal high water table or natural drainage of the soil by influencing infiltration and runoff rates. The effect topography has on soils is evident when a comparison is made between soils that formed in similar parent materials. For example, Ashkum and Ozaukee soils both formed in silty clay loam till. Ashkum soils are located in nearly level areas whereas Ozaukee soils are in gently sloping to steep areas. As a result, the two soils have different subsoil colors. These differences are determined by the degree of oxidation of certain mineral compounds, chiefly iron. In nearly level or depressional soils, such as Ashkum soils, the water table is close to the surface for most of the year. The soil pores contain water, restricting the circulation of air in the soil. These conditions cause the iron to be reduced, resulting in a grayish subsoil. In areas of the more sloping Ozaukee soils, the water table is lower, some rainfall runs off the soil rather than soaking in, the soil is drier, and the pores have more air. These conditions cause the iron in the subsoil to be oxidized, resulting in a brownish subsoil.

Topography also greatly determines the intensity of soil erosion. Even though some erosion occurs on almost all sloping soils, erosion generally becomes more severe as slope increases. On some soils, such as the Chatsworth soils, erosion is so rapid that the surface soil particles are removed as fast as the soil forms. These soils are weakly developed and shallow to the underlying parent material.

Time

The length of time needed for the formation of a soil depends on the other factors of soil formation. Soils form more rapidly and are more acid if the parent material has a low content of carbonates. Thus, more rapidly permeable soils form more readily than soils that have slower permeability because carbonates and other soluble minerals are leached more quickly. Forest soils form more quickly than prairie soils because grasses are more efficient in recycling calcium and other bases from the surface layer.

Soils in humid climates that support good growth of vegetation form more rapidly than those in dry climates.

The length of time that the parent materials have been in place determines to a great extent the degree of profile development. Most of the soils in Cook County began to form with the retreat of the last glacier about 12,500 years ago. On the flood plains, however, alluvial material is deposited during each flood and this continual deposition slows development. Sawmill soils formed in these areas.

Urbanization has also greatly affected soil development. Many areas have been mass graded, excavated, and/or filled and thus have slow soil development. Orthents, loamy are an example.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2010). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Mollisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquoll (*Aqu*, meaning water, plus *oll*, from Mollisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Endoaquolls (*Endo*, meaning within, plus *aquoll*, the suborder of the Mollisols that has an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Endoaquolls.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine, mixed, superactive, mesic Typic Endoaquolls.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Ashkum series.

Table 4 indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

Soil Series and Detailed Soil Map Units

In this section, arranged in alphabetical order, each major soil series recognized in the survey area is described. Each series description is followed by detailed descriptions of the associated soil map units.

Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993) and in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2010). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the headings “Use and Management of the Soils” and “Soil Properties.”

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure

taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Ozaukee silt loam, 4 to 6 percent slopes, eroded is a phase of the Ozaukee series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Urban land-Orthents, clayey, complex, nearly level is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Muskego and Houghton mucks, 0 to 2 percent slopes is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Urban land is an example.

Table 5 gives the acreage and proportionate extent of each map unit in this survey area. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

Alfic Udarents

These soils are in residential areas where soil material has been disturbed. They are fine, mixed, active, nonacid, mesic Alfic Udarents. The surface layer is mixed very dark brown and black, friable silty clay loam about 9 inches thick. The underlying material to a depth of about 37 inches is mottled brown and grayish brown, firm silty clay loam. It contains some fragments of the original argillic horizon. A buried, truncated soil extends to a depth of 60 inches or more. The upper part of this buried soil is very dark gray, friable silt loam, and the lower part is mottled grayish brown and brown, firm silty clay loam.

811A—Alfic Udarents, clayey, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits

Map Unit Composition

Alfic Udarents and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that formed under natural conditions
- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- Areas of urban land

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

811B—Alfic Udarents, clayey, 2 to 6 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Alfic Udarents and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that formed under natural conditions
- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 6 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- Areas of urban land

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

811D—Alfic Udarents, clayey, 6 to 12 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Backslopes

Map Unit Composition

Alfic Udarents and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that formed under natural conditions
- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 6 percent or more than 12 percent

Dissimilar components:

- Areas of urban land

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: High

Susceptibility to water erosion: High

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

822A—Alfic Udarents, clayey-Elliott complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits; Elliott—summits and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 50 percent

Elliott and similar soils: 40 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- Areas of urban land

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to densic material
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface (January through May)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

822B—Alfic Udarents, clayey-Elliott complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Alfic Udarents—summits and backslopes; Elliott—backslopes and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 50 percent
Elliott and similar soils: 40 percent
Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- Areas of urban land

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 48 to 66 inches to densic material
Available water capacity: About 5.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 4.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderate

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to densic material
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet below the surface (January through May)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

2023B—Alfic Udarents, clayey-Urban land-Blount complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Alfic Udarents—summits and backslopes; Blount—backslopes and toeslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent
Urban land: 38 percent
Blount and similar soils: 15 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill
Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 48 to 66 inches to densic material
Available water capacity: About 5.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 3.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Blount Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 16 inches to an abrupt textural change; 30 to 48 inches to densic material
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Blount—2e; Urban land—8
Prime farmland category: Not prime farmland
Hydric soil status: Alfic Udarents and Blount—not hydric; Urban land—not applicable

2223B—Alfic Udarents, clayey-Urban land-Varna complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Summits and backslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent
Urban land: 38 percent

Varna and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 6.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 24 to 60 inches to densic material

Available water capacity: About 8.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.5 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Varna—2e; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Varna—not hydric; Urban land—not applicable

2530B—Alfic Udarents, clayey-Urban land-Ozaukee complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Ozaukee and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 3.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Ozaukee—2e; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Ozaukee—not hydric; Urban land—not applicable

2530D—Alfic Udarents, clayey-Urban land-Ozaukee complex, 6 to 12 percent slopes

Setting

Landform: Ground moraines, end moraines, and lake plains

Position on the landform: Backslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Ozaukee and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 6 percent or more than 12 percent

Dissimilar components:

- The nearly level, somewhat poorly drained Blount soils on summits and footslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 3.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: High

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents—4e; Urban land—8; Ozaukee—3e

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Ozaukee—not hydric; Urban land—not applicable

2811A—Urban land-Alfic Udarents, clayey, complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits

Map Unit Composition

Urban land: 65 percent

Alfic Udarents and similar soils: 30 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that formed under natural conditions
- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Urban land—8; Alfic Udarents—2s

Prime farmland category: Not prime farmland

Hydric soil status: Urban land—not applicable; Alfic Udarents—not hydric

2811B—Urban land-Alfic Udarents, clayey, complex, 2 to 6 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Urban land: 65 percent

Alfic Udarents and similar soils: 30 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that formed under natural conditions
- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 6 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures.

Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Urban land—8; Alfic Udarents—3e

Prime farmland category: Not prime farmland

Hydric soil status: Urban land—not applicable; Alfic Udarents—not hydric

2822A—Alfic Udarents, clayey-Urban land-Elliott complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits; Elliott—summits and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Elliott and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Elliot—2s; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Elliot—not hydric; Urban land—not applicable

2822B—Alfic Udarents, clayey-Urban land-Elliott complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits and backslopes; Elliott—backslopes and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Elliott and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Elliott—2e; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Elliott—not hydric; Urban land—not applicable

Andres Series

Drainage class: Somewhat poorly drained

Landform: Ground moraines and lake plains

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till

Slope range: 0 to 2 percent

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Andres silt loam, 0 to 2 percent slopes; at an elevation of 633 feet; 1,525 feet south and 510 feet east of the northwest corner of section 27, T. 30 N., R. 8 E.; Livingston County, Illinois; USGS Campus topographic quadrangle; lat. 41 degrees 02 minutes 52 seconds N. and long. 88 degrees 18 minutes 17 seconds W., NAD 27; UTM Zone 16T, 0390341 Easting and 4544894 Northing, NAD 83:

Ap—0 to 11 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

BA—11 to 14 inches; brown (10YR 4/3) clay loam; moderate medium subangular blocky structure; friable; few very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt—14 to 19 inches; brown (10YR 4/3) clay loam; moderate fine subangular blocky structure; friable; few very fine roots; common fine distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) weakly cemented iron-manganese oxide concretions throughout; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Btg1—19 to 26 inches; grayish brown (10YR 5/2) clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) weakly cemented iron-manganese oxide concretions throughout; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

Btg2—26 to 36 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; common faint dark gray (10YR 4/1) clay films on faces of peds; few fine black (7.5YR 2.5/1) weakly cemented iron-manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

2Bt—36 to 50 inches; light olive brown (2.5Y 5/4) silty clay loam; weak medium prismatic structure; firm; few very fine roots; common faint grayish brown (2.5Y 5/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) weakly cemented iron-manganese oxide concretions throughout; many medium prominent gray (N 5/) iron depletions in the matrix; 3 percent gravel; very slightly effervescent; slightly alkaline; clear smooth boundary.

2C—50 to 60 inches; light olive brown (2.5Y 5/4) silty clay loam; massive; firm; few fine black (7.5YR 2.5/1) weakly cemented iron-manganese oxide concretions throughout; many medium prominent gray (N 5/) iron depletions in the matrix; 5 percent gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or other silty material: Less than 24 inches

Depth to till: 22 to 50 inches

Depth to carbonates: 24 to 55 inches

Depth to the base of soil development: 36 to 60 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

Bt, Btg, or BA horizon:

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 to 4

Texture—clay loam, loam, sandy clay loam, or silty clay loam

2Bt horizon:

Hue—10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—2 to 4

Texture—silty clay loam

Content of rock fragments—less than 10 percent

2C horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silty clay loam or silt loam

Content of rock fragments—less than 10 percent

293A—Andres silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Footslopes and summits

Map Unit Composition

Andres and similar soils: 91 percent

Dissimilar components: 9 percent

Components of Minor Extent

Similar soils:

- Soils that have a lighter colored surface layer
- Soils that contain more sand in the surface layer
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that contain less sand and more silt in the upper two-thirds of the subsoil
- Soils that have stratified loamy outwash in the lower part of the profile

Dissimilar components:

- The poorly drained Ashkum and similar soils on toeslopes
- The somewhat poorly drained Elliott soils, which are moderately deep or deep to densic material; on summits and footslopes
- Areas of urban land

Properties and Qualities of the Andres Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Aquents

These soils consist of disturbed soil material and are commonly in wetlands. They are fine, mixed, active, calcareous, mesic Typic Endoaquents. Typically, the surface layer is dark gray, friable silt loam about 6 inches thick. The underlying material to a depth of 60 inches or more is mottled dark gray and gray, very firm silty clay loam.

1409A—Aquents, clayey, undrained, nearly level

Setting

Landform: Lake plains

Position on the landform: Toeslopes

Map Unit Composition

Aquents and similar soils: 91 percent

Dissimilar components: 9 percent

Components of Minor Extent

Similar soils:

- Soils that formed under natural conditions
- Soils that contain more silt or sand and less clay

Dissimilar components:

- The moderately well drained, clayey Orthents on summits
- The well drained, loamy Orthents on summits
- Bodies of water

Properties and Qualities of the Aquents

Parent material: Earthy fill

Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 4.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(November through June)
Ponding: At the surface to 0.5 foot above the surface (November through June)
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 5w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric
Hydric criteria codes: 2B3, 3

Ashkum Series

Drainage class: Poorly drained
Landform: Ground moraines and end moraines
Parent material: Colluvium and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Ashkum silty clay loam, 0 to 2 percent slopes; at an elevation of 705 feet; 96 feet south and 2,030 feet east of the northwest corner of section 22, T. 34 N., R. 11 E.; Will County, Illinois; USGS Manhattan topographic quadrangle; lat. 41 degrees 25 minutes 30 seconds N. and long. 87 degrees 57 minutes 19 seconds W., NAD 27; UTM Zone 16T, 0420168 Easting and 4586370 Northing, NAD 83:

- Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; many very fine roots; neutral; clear smooth boundary.
- A—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; common very fine roots; neutral; clear smooth boundary.
- B_{Ag}—12 to 18 inches; dark gray (2.5Y 4/1) silty clay loam; moderate very fine and fine subangular blocky structure; firm; common very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine very dark gray (7.5YR 3/1) very weakly cemented iron-manganese concretions throughout; neutral; clear smooth boundary.
- B_{g1}—18 to 29 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine very dark gray (7.5YR 3/1) very weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6)

masses of oxidized iron in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; neutral; clear wavy boundary.

2Bg2—29 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine very dark gray (10YR 3/1) very weakly cemented iron-manganese concretions throughout; common fine and medium faint brown (10YR 5/3) masses of oxidized iron-manganese in the matrix; common fine and medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common fine and medium faint gray (5Y 5/1) iron depletions in the matrix; 8 percent gravel; neutral; gradual wavy boundary.

2BCg—49 to 54 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to weak coarse angular blocky; firm; few very fine roots; common fine very dark gray (10YR 3/1) very weakly cemented iron-manganese concretions throughout; common fine and medium faint brown (10YR 5/3) masses of oxidized iron-manganese in the matrix; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium faint gray (2.5Y 5/1) iron depletions in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

2Cg—54 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; common fine and medium faint brown (10YR 5/3) masses of oxidized iron-manganese in the matrix; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; 8 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Thickness of the colluvium: 15 to 40 inches

Depth to carbonates: 24 to 60 inches

Depth to the base of soil development: 30 to 60 inches

Ap or A horizon:

Hue—10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 or 1

Texture—silty clay loam

B_{Ag} or B_g horizon:

Hue—10YR, 2.5Y, 5Y, 5GY, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam or silty clay

2B_g or 2BC_g horizon:

Hue—2.5Y, 5Y, 5GY, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam

2C_g horizon:

Hue—10YR, 2.5Y, 5Y, 5GY, or N

Value—4 to 6

Chroma—0 to 8

Texture—silty clay loam

Content of rock fragments—less than 10 percent

232A—Ashkum silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Toeslopes

Map Unit Composition

Ashkum and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that are overlain by light-colored, recent deposits
- Soils that have a thinner surface soil
- Soils that contain less clay and more silt in the subsoil
- Soils that are darker in the upper part of the subsoil
- Soils that have till beginning at a depth of more than 40 inches

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land
- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Ashkum Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

854B—Markham-Ashkum-Beecher complex, 1 to 6 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Markham—summits and backslopes; Ashkum—toeslopes;
Beecher—footslopes and backslopes

Map Unit Composition

Markham and similar soils: 40 percent
Ashkum and similar soils: 30 percent
Beecher and similar soils: 25 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a thicker surface layer
- Soils that contain more sand or silt and less clay in the upper half of the profile
- Soils that have a lighter colored surface layer

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes

Properties and Qualities of the Markham Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 55 inches to densic material

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Prenched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Properties and Qualities of the Ashkum Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Properties and Qualities of the Beecher Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 45 inches to densic material
Available water capacity: About 6.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Markham—3e; Ashkum—2w; Beecher—2e
Prime farmland category: Not prime farmland
Hydric soil status: Markham and Beecher—not hydric; Ashkum—hydric
Hydric criteria code: 2B3

2232A—Orthents, clayey-Urban land-Ashkum complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Orthents—summits; Ashkum—toeslopes

Map Unit Composition

Orthents and similar soils: 45 percent
Urban land: 40 percent
Ashkum and similar soils: 15 percent

Components of Minor Extent

Similar soils:

- Soils that have more sand or silt and less clay in the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates near the surface
- Soils that have slopes of more than 2 percent

Properties and Qualities of the Orthents

Parent material: Earthy fill
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 4 to 12 inches to densic material
Available water capacity: About 6.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 3.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Ashkum Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Orthents—4s; Urban land—8; Ashkum—2w

Prime farmland category: Not prime farmland

Hydric soil status: Orthents—not hydric; Urban land—not applicable; Ashkum—hydric

Hydric criteria code: 2B3

Barrington Series

Drainage class: Moderately well drained

Permeability: Moderate

Landform: Outwash plains, stream terraces, and lake plains

Parent material: Loess or other silty material and the underlying outwash

Slope range: 0 to 4 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls

Typical Pedon

Barrington silt loam, 2 to 4 percent slopes; at an elevation of 627 feet; 400 feet north and 190 feet west of the center of section 16, T. 30 N., R. 3 E.; Livingston County, Illinois; USGS Long Point topographic quadrangle; lat. 41 degrees 04 minutes 07 seconds N. and long. 88 degrees 52 minutes 54 seconds W., NAD 27; UTM Zone 16T, 0341910 Easting and 4548092 Northing, NAD 83:

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; slightly acid; abrupt smooth boundary.

BA—11 to 16 inches; brown (10YR 4/3) silty clay loam; weak fine subangular blocky structure parting to moderate fine granular; friable; few very fine roots; common

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- faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.
- Bt1—16 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—21 to 26 inches; yellowish brown (10YR 5/4) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few distinct brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.
- Bt3—26 to 32 inches; yellowish brown (10YR 5/4) silty clay loam; weak fine prismatic structure parting to moderate medium angular blocky; friable; few distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; clear smooth boundary.
- 2Bt4—32 to 37 inches; yellowish brown (10YR 5/4) silt loam; weak fine prismatic structure parting to weak medium angular blocky; friable; very few distinct brown (10YR 4/3) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; very slightly effervescent; slightly alkaline; clear smooth boundary.
- 2BC—37 to 42 inches; yellowish brown (10YR 5/4) silt loam with thin strata of fine sandy loam; weak fine prismatic structure; friable; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2C—42 to 60 inches; yellowish brown (10YR 5/4) stratified silt loam and fine sandy loam; massive; friable; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches

Thickness of the loess or other silty material: 22 to 40 inches

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 25 to 45 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

BA horizon (if it occurs) and Bt horizon:

Hue—10YR

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam or silt loam

2Bt or 2BC horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—loam, silt loam, sandy loam, very fine sandy loam, or clay loam; commonly stratified

2C horizon:

Hue—10YR or 2.5Y

Value—4 to 6
Chroma—2 to 6
Texture—stratified fine sand to silt loam
Content of rock fragments—less than 8 percent

443B—Barrington silt loam, 2 to 4 percent slopes

Setting

Landform: Outwash plains, stream terraces, and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Barrington and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface layer
- Soils that have sandy and gravelly deposits in the lower part of the profile
- Soils that have carbonates beginning at a depth of more than 40 inches
- Soils that have till in the lower part of the profile
- Soils that have loamy outwash beginning at a depth of less than 22 inches or more than 40 inches
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet

Dissimilar components:

- The poorly drained Drummer and Pella soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Barrington Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

848B—Drummer-Barrington-Mundelein complex, 1 to 6 percent slopes

Setting

Landform: Outwash plains

Position on the landform: Drummer—toeslopes; Barrington—summits and backslopes; Mundelein—summits and footslopes

Map Unit Composition

Drummer and similar soils: 40 percent

Barrington and similar soils: 30 percent

Mundelein and similar soils: 25 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 1 percent or more than 6 percent
- Soils that have till in the lower part of the profile
- Soils that have sandy and gravelly deposits in the lower part of the profile
- Soils that have a thinner surface layer

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits and backslopes

Properties and Qualities of the Drummer Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 7.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Properties and Qualities of the Barrington Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Mundelein Soil

Parent material: Loess or other silty material and the underlying outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Drummer—2w; Barrington—3e; Mundelein—1
Prime farmland category: Not prime farmland
Hydric soil status: Drummer—hydric; Barrington and Mundelein—not hydric
Hydric criteria code: 2B3

367—Beaches

This map unit occurs as a strip along the shoreline of Lake Michigan. It consists of sand and water-rounded stones. Areas of this map unit are not stable enough to support vegetation because they are reworked during storms or periods when the water level is high. They are suitable for recreational uses.

Beecher Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 0 to 4 percent
Taxonomic classification: Fine, illitic, mesic Udollic Epiaqualfs

Typical Pedon

Beecher silt loam, 0 to 2 percent slopes; at an elevation of 655 feet; 340 feet south and 65 feet west of the northeast corner of section 14, T. 31 N., R. 12 E.; Kankakee County, Illinois; USGS Bradley topographic quadrangle; lat. 41 degrees 10 minutes 36 seconds N. and long. 87 degrees 47 minutes 56 seconds W., NAD 27; UTM Zone 16T, 0432988 Easting and 4558680 Northing, NAD 83:

Ap—0 to 9 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; weak very fine granular structure; friable; neutral; abrupt smooth boundary.
BE—9 to 13 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate very fine granular structure; friable; common distinct very dark gray (10YR 3/1) organic

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- coatings on faces of peds; few fine faint brown (10YR 5/3) masses of oxidized iron-manganese in the matrix; slightly acid; clear smooth boundary.
- 2Bt—13 to 16 inches; brown (10YR 5/3) silty clay loam; moderate very fine subangular blocky structure; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (10YR 2/1) iron-manganese concretions throughout; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 1 percent gravel; moderately acid; clear smooth boundary.
- 2Btg1—16 to 21 inches; grayish brown (10YR 5/2) silty clay loam; moderate very fine and fine subangular blocky structure; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark gray (10YR 4/1) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; moderately acid; clear smooth boundary.
- 2Btg2—21 to 27 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine dark brown (7.5YR 3/3) and black (10YR 2/1) iron-manganese concretions throughout; few fine prominent yellowish brown (10YR 5/6 and 5/8) masses of oxidized iron in the matrix; 2 percent gravel; slightly alkaline; clear smooth boundary.
- 2B't—27 to 32 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine black (10YR 2/1) iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/8) and distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium prominent gray (5Y 5/1) iron depletions in the matrix; 2 percent gravel; slightly alkaline; clear smooth boundary.
- 2BCt—32 to 37 inches; yellowish brown (10YR 5/6) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine black (10YR 2/1) iron-manganese concretions throughout; many coarse prominent gray (5Y 5/1) iron depletions in the matrix; 2 percent gravel; slightly effervescent; moderately alkaline; clear smooth boundary.
- 2Cd—37 to 60 inches; yellowish brown (10YR 5/4) silty clay loam; massive; very firm; few fine black (10YR 2/1) iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/8) and distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine prominent greenish gray (5GY 5/1) iron depletions in the matrix; common medium prominent greenish gray (5G 6/1) iron depletions on cleavage planes; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches

Depth to carbonates: 20 to 42 inches

Depth to the base of soil development: 24 to 45 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

E horizon (if it occurs):

Hue—10YR
Value—4 or 5
Chroma—2
Texture—silt loam

BE, 2Bt, or 2Btg horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay
Content of rock fragments—less than 10 percent

2BCt or 2Cd horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam
Content of rock fragments—1 to 10 percent

298A—Beecher silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and footslopes

Map Unit Composition

Beecher and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have a thicker surface layer
- Soils that have a lighter colored surface layer
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that have more than 18 inches of loess or silty material

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Beecher Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 24 to 45 inches to densic material

Available water capacity: About 6.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

298B—Beecher silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes and footslopes

Map Unit Composition

Beecher and similar soils: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a lighter colored surface layer
- Soils that have more sand in the upper half of the profile
- Soils that have a thicker surface layer

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Beecher Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 45 inches to densic material
Available water capacity: About 6.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

854B—Markham-Ashkum-Beecher complex, 1 to 6 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Markham—summits and backslopes; Ashkum—toeslopes; Beecher—footslopes and backslopes

Map Unit Composition

Markham and similar soils: 40 percent

Ashkum and similar soils: 30 percent

Beecher and similar soils: 25 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a thicker surface layer
- Soils that contain more sand or silt and less clay in the upper half of the profile
- Soils that have a lighter colored surface layer

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes

Properties and Qualities of the Markham Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 55 inches to densic material

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Properties and Qualities of the Ashkum Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Properties and Qualities of the Beecher Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 45 inches to densic material
Available water capacity: About 6.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Markham—3e; Ashkum—2w; Beecher—2e
Prime farmland category: Not prime farmland
Hydric soil status: Markham and Beecher—not hydric; Ashkum—hydric
Hydric criteria code: 2B3

Blount Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 0 to 4 percent
Taxonomic classification: Fine, illitic, mesic Aeric Epiaqualfs

Typical Pedon

Blount silt loam, 0 to 2 percent slopes; at an elevation of 705 feet; 2,480 feet south and 1,203 feet west of the northeast corner of section 29, T. 26 N., R. 6 E.; Livingston County, Illinois; USGS Fairbury topographic quadrangle; lat. 40 degrees 41 minutes 36 seconds N. and long. 88 degrees 32 minutes 55 seconds W., NAD 27; UTM Zone 16T, 0369163 Easting and 4505880 Northing, NAD 83:

- Ap—0 to 7 inches; brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; few fine roots; moderately acid; abrupt smooth boundary.
- E—7 to 13 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate thin platy structure; friable; few fine roots; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; abrupt smooth boundary.
- 2Bt—13 to 17 inches; brown (10YR 5/3) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 3 percent gravel; moderately acid; clear smooth boundary.

- 2Btg—17 to 26 inches; grayish brown (10YR 5/2) silty clay; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; 3 percent gravel; slightly acid; clear smooth boundary.
- 2B't—26 to 32 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; few very fine roots; common distinct gray (5Y 5/1) clay films on faces of peds; many medium prominent gray (5Y 6/1) iron depletions in the matrix; 3 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2Cd—32 to 60 inches; 60 percent light olive brown (2.5Y 5/4) and 40 percent gray (5Y 6/1) silty clay loam; massive; very firm; common medium prominent white (10YR 8/1) calcium carbonate concretions throughout; 5 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches

Depth to carbonates: 19 to 40 inches

Depth to the base of soil development: 30 to 48 inches

Ap or A horizon:

Hue—10YR

Value—3 or 4

Chroma—1 to 3

Texture—silt loam

E horizon:

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—1 or 2

Texture—silt loam

2Bt, 2Btg, or 2B't horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam, silty clay, or clay loam

Content of rock fragments—2 to 14 percent

2Cd horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam or clay loam

Content of rock fragments—4 to 14 percent

23A—Blount silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and footslopes

Map Unit Composition

Blount and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that contain less clay and more sand or silt in the subsoil
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Blount Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 8 to 16 inches to an abrupt textural change; 30 to 48 inches to densic material

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Not hydric

23B—Blount silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Backslopes and footslopes

Map Unit Composition

Blount and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have a darker surface layer
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that contain less clay and more sand or silt in the subsoil
- Soils that are moderately eroded

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Blount Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 8 to 16 inches to an abrupt textural change; 30 to 48 inches to densic material

Available water capacity: About 7.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

2023B—Alfic Udarents, clayey-Urban land-Blount complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits and backslopes; Blount—backslopes and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Blount and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 48 to 66 inches to densic material
Available water capacity: About 5.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 3.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Blount Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 8 to 16 inches to an abrupt textural change; 30 to 48 inches to densic material
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Blount—2e; Urban land—8
Prime farmland category: Not prime farmland
Hydric soil status: Alfic Udarents and Blount—not hydric; Urban land—not applicable

Bryce Series

Drainage class: Poorly drained
Landform: Ground moraines and glacial lakes (relict)
Parent material: Colluvium and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine, mixed, superactive, mesic Vertic Endoaquolls

Typical Pedon

Bryce silty clay, 0 to 2 percent slopes; at an elevation of 675 feet; 2,559 feet north and 45 feet west of the center of section 7, T. 25 N., R. 13 W.; Iroquois County, Illinois; USGS Woodworth topographic quadrangle; lat. 40 degrees 38 minutes 39 seconds N. and long. 87 degrees 52 minutes 23 seconds W., NAD 27; UTM Zone 16T, 0426178 Easting and 4499628 Northing, NAD 83:

Ap1—0 to 10 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; weak very fine granular structure; friable; few fine black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; slightly acid; abrupt smooth boundary.

Ap2—10 to 13 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate medium angular blocky structure; friable; moderately acid; abrupt smooth boundary.

Bg—13 to 19 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; firm; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine distinct dark grayish brown (2.5Y 4/2) and few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear wavy boundary.

Btg1—19 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay; weak medium prismatic structure parting to moderate fine and medium subangular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many distinct black (N 2.5/) organo-clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear wavy boundary.

Btg2—24 to 35 inches; olive gray (5Y 5/2) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common distinct olive gray (5Y 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few slickensides on faces of peds; common fine black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; common fine faint dark gray (2.5Y 4/1) iron depletions in the matrix; common fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; neutral; gradual smooth boundary.

Btg3—35 to 45 inches; gray (5Y 5/1) silty clay; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; few fine roots; few distinct dark gray (5Y 4/1) clay films on faces of peds; few slickensides and pressure faces on faces of peds; common medium prominent light olive brown (2.5Y 5/4) and few medium prominent dark yellowish brown (10YR 4/4) masses of oxidized iron-manganese in the matrix; slightly alkaline; clear smooth boundary.

2BCg—45 to 58 inches; gray (5Y 5/1) silty clay; weak very coarse prismatic structure; very firm; common coarse prominent brown (10YR 4/3) masses of oxidized iron-manganese in the matrix; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron accumulation in the matrix; few fine white (10YR 8/1) very weakly cemented calcium carbonate nodules and weakly cemented calcium carbonate concretions throughout; 1 percent fine gravel; slightly effervescent; moderately alkaline; clear smooth boundary.

2Cg—58 to 66 inches; gray (5Y 5/1) silty clay; massive; very firm; many medium prominent olive brown (2.5Y 4/4) masses of oxidized iron-manganese in the matrix; 3 percent fine gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Thickness of the colluvium: 15 to 55 inches

Depth to the base of soil development: 30 to more than 60 inches

Ap or A horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 3

Chroma—0 or 1

Texture—silty clay

Bg, Btg, or BCg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 6

Chroma—0 to 3

Texture—silty clay or clay

2BCg horizon:

Hue—2.5Y or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay or clay

2Cg horizon:

Hue—2.5Y or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silty clay, clay, or silty clay loam

Content of rock fragments—less than 10 percent

235A—Bryce silty clay, 0 to 2 percent slopes

Setting

Landform: Ground moraines and glacial lakes (relict)

Position on the landform: Toeslopes

Map Unit Composition

Bryce and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that have till beginning at a depth of more than 55 inches
- Soils that have stratified loamy outwash in the lower part of the profile
- Soils that contain less clay and more silt in the subsoil
- Soils that are overlain by light-colored, recent deposits
- Soils that have a thinner surface layer

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits
- Very poorly drained soils on toeslopes
- Areas of urban land

Properties and Qualities of the Bryce Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 6.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

925B—Frankfort-Bryce complex, 1 to 6 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Frankfort—footslopes and backslopes; Bryce—toeslopes

Map Unit Composition

Frankfort and similar soils: 53 percent

Bryce and similar soils: 42 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 1 percent or more than 6 percent
- Soils that have a thinner or lighter colored surface layer
- Soils that contain less clay and more silt in the subsoil

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes

Properties and Qualities of the Frankfort Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 24 to 42 inches to densic material

Available water capacity: About 5.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Properties and Qualities of the Bryce Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 6.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Frankfort—3e; Bryce—3w

Prime farmland category: Not prime farmland

Hydric soil status: Frankfort—not hydric; Bryce—hydric

Hydric criteria code: 2B3

Casco Series

Drainage class: Somewhat excessively drained

Permeability: Moderate in the upper part and very rapid in the lower part

Landform: Outwash plains, end moraines, and kames

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Slope range: 12 to 30 percent

Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Inceptic Hapludalfs

Typical Pedon

Casco loam, 2 to 6 percent slopes; at an elevation of 1,054 feet; 100 feet north and 200 feet east of the southwest corner of the southeast quarter of section 6, T. 14 N., R. 20 E.; Sheboygan County, Wisconsin; USGS Dundee, Wisconsin topographic quadrangle; lat. 43 degrees 42 minutes 13 seconds N. and long. 88 degrees 08 minutes 57 seconds W., NAD 27; UTM Zone 16T, 0407401 Easting and 4839595 Northing, NAD 83:

- Ap—0 to 8 inches; dark grayish brown (10YR 4/2) loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common fine roots; slightly acid; abrupt smooth boundary.
- Bt1—8 to 13 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; firm; common fine roots; common distinct brown (7.5YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—13 to 17 inches; brown (7.5YR 4/4) sandy clay loam; moderate medium subangular blocky structure; firm; common fine roots; common faint dark brown (7.5YR 3/4) clay films on faces of peds; common distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds and on gravel near the lower boundary; about 9 percent gravel in the lower part; neutral; abrupt wavy boundary.

2C—17 to 60 inches; brown (10YR 5/3) stratified gravelly coarse sand, very gravelly coarse sand, and extremely gravelly coarse sand; single grain; loose; about 60 percent gravel as an average; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to sandy and gravelly glaciofluvial deposits: 10 to 20 inches

Depth to carbonates: 10 to 20 inches

Depth to the base of soil development: 10 to 20 inches

Ap or A horizon:

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—2 or 3

Texture—loam

Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—clay loam, sandy clay loam, or loam or the gravelly analogs of these textures

Content of rock fragments—less than 35 percent

C horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 or 4

Texture—sand or coarse sand or the gravelly, very gravelly, or extremely gravelly analogs of these textures

Content of rock fragments—8 to 80 percent

969E2—Casco-Rodman complex, 12 to 20 percent slopes, eroded

Setting

Landform: End moraines and outwash plains

Position on the landform: Backslopes

Map Unit Composition

Casco and similar soils: 52 percent

Rodman and similar soils: 43 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that contain more silt and less sand in the surface layer
- Soils that are only slightly eroded
- Soils that have sandy and gravelly deposits beginning at a depth of more than 20 inches
- Soils that have carbonates at or near the surface
- Soils that have slopes of less than 12 percent or more than 20 percent
- Soils that have till in the lower part of the profile

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes

Properties and Qualities of the Casco Soil

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: 10 to 20 inches to strongly contrasting textural stratification
Available water capacity: About 3.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Accelerated erosion: The surface layer has been thinned by erosion
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Rodman Soil

Parent material: Sandy and gravelly glaciofluvial deposits
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 2.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Low
Accelerated erosion: The surface layer has been thinned by erosion
Potential for frost action: Low
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

969F—Casco-Rodman complex, 20 to 30 percent slopes

Setting

Landform: End moraines and outwash plains
Position on the landform: Backslopes

Map Unit Composition

Casco and similar soils: 52 percent
Rodman and similar soils: 43 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that contain more silt and less sand in the surface layer
- Soils that have carbonates at or near the surface

- Soils that have sandy and gravelly deposits beginning at a depth of more than 20 inches
- Soils that have slopes of less than 20 percent or more than 30 percent
- Soils that are moderately eroded
- Soils that have till in the lower part of the profile

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes

Properties and Qualities of the Casco Soil

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Drainage class: Somewhat excessively drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 10 to 20 inches to strongly contrasting textural stratification

Available water capacity: About 3.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent

Shrink-swell potential: Moderate

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: High

Properties and Qualities of the Rodman Soil

Parent material: Sandy and gravelly glaciofluvial deposits

Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Moderately rapid

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 2.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Low

Potential for frost action: Low

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: High

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

Chatsworth Series

Drainage class: Moderately well drained

Landform: End moraines and ground moraines

Parent material: Till

Slope range: 6 to 20 percent

Taxonomic classification: Fine, illitic, mesic Oxyaquic Eutrudepts

Typical Pedon

Chatsworth silty clay, 6 to 12 percent slopes, severely eroded; at an elevation of 735 feet; 148 feet north and 1,870 feet west of the southeast corner of section 7, T. 24

Soil Survey of Cook County, Illinois

N., R. 10 E.; Iroquois County, Illinois; USGS Buckley topographic quadrangle; lat. 40 degrees 32 minutes 48 seconds N. and long. 88 degrees 06 minutes 20 seconds W., NAD 27; UTM Zone 16T, 0406382 Easting and 4489026 Northing, NAD 83:

- Ap—0 to 2 inches; dark grayish brown (2.5Y 4/2) silty clay, light brownish gray (10YR 6/2) dry; moderate medium granular structure; firm; common medium roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- Bw—2 to 11 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate very fine and fine subangular blocky structure; firm; few medium and fine roots; few fine distinct olive brown (2.5Y 4/4) masses of oxidized iron-manganese in the matrix; common fine faint dark gray (5Y 4/1) iron depletions in the matrix; few fine white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; strongly effervescent; moderately alkaline; clear wavy boundary.
- Bt1—11 to 15 inches; dark grayish brown (2.5Y 4/2) silty clay; weak medium prismatic structure parting to moderate fine and medium angular blocky; very firm; few fine roots between peds; common faint dark gray (5Y 4/1) clay films on faces of peds; common fine distinct olive brown (2.5Y 4/4) masses of oxidized iron-manganese in the matrix; common fine faint dark gray (5Y 4/1) iron depletions in the matrix; common medium white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; strongly effervescent; moderately alkaline; gradual wavy boundary.
- Bt2—15 to 22 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium prismatic structure parting to weak medium subangular blocky; very firm; few fine roots between peds; common faint dark gray (5Y 4/1) clay films on faces of peds; common fine distinct olive brown (2.5Y 4/4) masses of oxidized iron-manganese in the matrix; common fine faint dark gray (5Y 4/1) iron depletions in the matrix; common medium white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; strongly effervescent; moderately alkaline; gradual wavy boundary.
- Cd1—22 to 35 inches; dark grayish brown (2.5Y 4/2) silty clay; massive with evidence of vertical cleavage; very firm; few fine roots along cleavage planes; many faint gray (5Y 5/1) pressure faces along vertical cleavage planes; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine faint gray (5Y 5/1) iron depletions in the matrix; few medium white (10YR 8/1) very weakly cemented calcium carbonate nodules along cleavage planes; strongly effervescent; moderately alkaline; gradual wavy boundary.
- Cd2—35 to 60 inches; dark gray (5Y 4/1) silty clay; massive with evidence of vertical cleavage; very firm; very few fine roots along widely spaced vertical cleavage planes; many faint gray (5Y 5/1) pressure faces along vertical cleavage planes; few medium white (10YR 8/1) very weakly cemented calcium carbonate nodules along vertical cleavage planes; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to carbonates: Less than 20 inches

Depth to the base of soil development: 10 to 24 inches

Ap or A horizon:

Hue—10YR, 2.5Y, or 5Y

Value—3 or 4

Chroma—1 or 2

Texture—silty clay

Content of rock fragments—less than 3 percent

Bw or Bt horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5
Chroma—2 or 3
Texture—silty clay, clay, or silty clay loam
Content of rock fragments—less than 3 percent

Cd horizon:

Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—1 to 6
Texture—silty clay, clay, or silty clay loam
Content of rock fragments—less than 3 percent

**241D3—Chatsworth silty clay, 6 to 12 percent slopes,
severely eroded**

Setting

Landform: Ground moraines and end moraines

Position on the landform: Backslopes

Map Unit Composition

Chatsworth and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that have carbonates beginning at a depth of more than 20 inches
- Soils in which the content of clay increases below the surface layer
- Soils that contain less clay and more silt or sand throughout the profile

Dissimilar components:

- The nearly level, somewhat poorly drained Nappanee soils on summits and footslopes
- Areas of urban land

Properties and Qualities of the Chatsworth Soil

Parent material: Till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 10 to 24 inches to densic material

Available water capacity: About 2.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 1.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Accelerated erosion: The surface layer is mostly subsoil material

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 6e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

241E3—Chatsworth silty clay, 12 to 20 percent slopes, severely eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

Chatsworth and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 12 percent or more than 20 percent
- Soils that have carbonates beginning at a depth of more than 20 inches
- Soils in which the content of clay increases below the surface layer
- Soils that contain less clay and more silt or sand throughout the profile

Dissimilar components:

- The gently sloping, somewhat poorly drained Nappanee soils on backslopes and footslopes
- Areas of urban land

Properties and Qualities of the Chatsworth Soil

Parent material: Till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 10 to 24 inches to densic material

Available water capacity: About 2.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 1.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Accelerated erosion: The surface layer is mostly subsoil material

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: High

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 6e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

Chenoa Series

Drainage class: Somewhat poorly drained

Landform: Ground moraines and end moraines

Parent material: Loess or other silty material and the underlying till

Slope range: 0 to 2 percent

Taxonomic classification: Fine, illitic, mesic Aquic Argiudolls

Typical Pedon

Chenoa silty clay loam, 0 to 2 percent slopes; at an elevation of 691 feet; 105 feet south and 865 feet west of the northeast corner of section 2, T. 27 N., R. 3 E.; Livingston County, Illinois; USGS Flanagan South topographic quadrangle; lat. 40 degrees 50 minutes 31 seconds N. and long. 88 degrees 50 minutes 13 seconds W., NAD 27; UTM Zone 16T, 0345124 Easting and 4522838 Northing, NAD 83:

Ap—0 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; few fine roots; neutral; abrupt smooth boundary.

BA—12 to 16 inches; brown (10YR 4/3) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt—16 to 21 inches; brown (10YR 4/3) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine distinct gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

Btg1—21 to 26 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common medium black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

Btg2—26 to 32 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common medium black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

2Bt—32 to 36 inches; light olive brown (2.5Y 5/4) silty clay loam; weak medium prismatic structure parting to weak medium angular blocky; firm; few very fine roots; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common medium distinct gray (2.5Y 6/1) iron depletions in the matrix; 3 percent gravel; slightly alkaline; clear smooth boundary.

2C—36 to 60 inches; light olive brown (2.5Y 5/4) silty clay loam; massive with evidence of vertical cleavage; firm; few prominent light brownish gray (10YR 6/2) coatings on vertical cleavage planes; common medium distinct gray (2.5Y 6/1) iron depletions in the matrix; 3 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or other silty material: 20 to 40 inches

Depth to carbonates: 25 to 45 inches

Depth to the base of soil development: 25 to 50 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silty clay loam

BA, Bt, or Btg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silty clay

2Bt horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silt loam

Content of gravel—less than 10 percent

2C horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam or silt loam

Content of gravel—1 to 10 percent

614A—Chenoa silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and footslopes

Map Unit Composition

Chenoa and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface layer
- Soils that have less clay and more silt in the subsoil
- Soils that have till beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have less silt and more sand in the lower part of the profile
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- Poorly drained soils on toeslopes
- Areas of urban land

Properties and Qualities of the Chenoa Soil

Parent material: Loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Soil Survey of Cook County, Illinois

Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 1 to 2 feet (January through May)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Darroch Series

Drainage class: Somewhat poorly drained
Permeability: Moderate
Landform: Outwash plains and lake plains
Parent material: Thin mantle of loess or other silty material and the underlying outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Darroch silt loam, 0 to 2 percent slopes; at an elevation of 810 feet; 2,600 feet east and 60 feet south of the northwest corner of section 10, T. 25 N., R. 8 W.; Benton County, Indiana; USGS Wadena, Indiana topographic quadrangle; lat. 40 degrees 37 minutes 57.3 seconds N. and long. 87 degrees 18 minutes 51.6 seconds W., NAD 27; UTM Zone 16T, 0473415 Easting and 4498100 Northing, NAD 83:

- Ap—0 to 11 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many very fine roots; neutral; abrupt wavy boundary.
- A—11 to 15 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure; friable; many very fine roots; neutral; clear wavy boundary.
- Btg1—15 to 21 inches; grayish brown (10YR 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films lining root channels; many medium distinct yellowish brown (10YR 5/4) and prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few medium faint dark gray (10YR 4/1) iron depletions in the matrix; slightly acid; clear wavy boundary.
- 2Btg2—21 to 29 inches; grayish brown (10YR 5/2) loam; moderate medium subangular blocky structure; friable; few very fine roots; common dark gray (10YR 4/1) fillings in root channels; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear wavy boundary.
- 2C1—29 to 46 inches; yellowish brown (10YR 5/4) silt loam that has thin strata of fine sand; massive; friable; few dark grayish brown (10YR 4/2) fillings in root channels; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron

in the matrix; many medium distinct gray (10YR 6/1) iron depletions in the matrix; strongly effervescent; moderately alkaline; gradual wavy boundary.
2C2—46 to 60 inches; yellowish brown (10YR 5/4) silt loam that has thin strata of fine sand and silty clay loam; massive; friable; few black (N 2.5/) very weakly cemented iron-manganese oxide nodules throughout; common medium prominent yellowish brown (10YR 5/8) and few medium distinct dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; common medium distinct gray (10YR 6/1) iron depletions in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to carbonates: 24 to 45 inches

Depth to the base of soil development: 24 to 45 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

Btg or Bt horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 to 6

Texture—silty clay loam, silt loam, clay loam, or loam

2Btg or 2Bt horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 to 6

Texture—sandy clay loam, loam, sandy loam, fine sandy loam, or clay loam

Content of gravel—less than 7 percent

2C or 2Cg horizon:

Hue—10YR or 2.5Y

Value—5 to 7

Chroma—1 to 6

Texture—loam or silt loam with thin strata of other textures

Content of gravel—less than 15 percent

740A—Darroch silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and lake plains

Position on the landform: Footslopes and summits

Map Unit Composition

Darroch and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have less sand and more silt in the upper half of the profile
- Soils that have carbonates beginning at a depth of less than 24 inches or more than 45 inches
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- The poorly drained Selma soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Darroch Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.5 to 4.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

2740A—Orthents, loamy-Urban land-Darroch complex, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Summits

Map Unit Composition

Orthents and similar soils: 42 percent

Urban land: 38 percent

Darroch and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar components:

- Soils that have more silt and less sand
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table beginning at a depth of 2.0 to 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Darroch Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Orthents—2s; Urban land—8; Darroch—1
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Del Rey Series

Drainage class: Somewhat poorly drained
Permeability: Slow
Landform: Lake plains
Parent material: Lacustrine deposits
Slope range: 0 to 2 percent
Taxonomic classification: Fine, illitic, mesic Aeric Epiaqualfs

Typical Pedon

Del Rey silt loam, 0 to 2 percent slopes; at an elevation of 663 feet; 155 feet south and 900 feet west of the northeast corner of section 1, T. 25 N., R. 11 E.; Iroquois County,

Soil Survey of Cook County, Illinois

Illinois; USGS Onarga West topographic quadrangle; lat. 40 degrees 40 minutes 43 seconds N. and long. 88 degrees 00 minutes 13 seconds W., NAD 27; UTM Zone 16T, 0415182 Easting and 4503569 Northing, NAD 83:

- A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.
- E—4 to 9 inches; light brownish gray (10YR 6/2) silt loam, light gray (10YR 7/2) dry; moderate thin and medium platy structure; friable; many fine roots; moderately acid; abrupt smooth boundary.
- Bt—9 to 12 inches; brown (10YR 5/3) silty clay loam; strong fine subangular blocky structure; firm; common fine roots; many distinct grayish brown (10YR 5/2) clay films and pale brown (10YR 6/3) (dry) clay depletions on faces of peds; very strongly acid; clear smooth boundary.
- Btg1—12 to 25 inches; light brownish gray (2.5Y 6/2) silty clay; strong fine and medium subangular blocky structure; firm; common fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; very strongly acid; clear smooth boundary.
- Btg2—25 to 33 inches; 50 percent light brownish gray (2.5Y 6/2), 30 percent light olive brown (2.5Y 5/4), and 20 percent gray (10YR 6/1) silty clay; moderate fine and medium angular and subangular blocky structure; firm; common fine roots; many distinct grayish brown (2.5Y 5/2) clay films on faces of peds; strongly acid; gradual smooth boundary.
- BCtg—33 to 41 inches; 35 percent light brownish gray (2.5Y 6/2), 35 percent gray (10YR 6/1), and 30 percent light olive brown (2.5Y 5/4) silty clay loam; weak coarse angular and subangular blocky structure; firm; few fine roots; common distinct grayish brown (2.5Y 5/2) clay films on vertical faces of peds; slightly alkaline; gradual smooth boundary.
- Cg—41 to 60 inches; 55 percent grayish brown (10YR 5/2) and 45 percent yellowish brown (10YR 5/6 and 5/8) silty clay loam; massive; friable; few distinct light gray (10YR 7/1) (dry) clay depletions on bedding planes; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to carbonates: 24 to 48 inches

Depth to the base of soil development: 24 to 48 inches

Ap or A horizon:

Hue—10YR

Value—3 or 4

Chroma—1 to 3

Texture—silt loam

E horizon:

Hue—10YR

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

Bt, Btg, or BCtg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam or silty clay

Cg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silt loam or silty clay loam

192A—Del Rey silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Summits and footslopes

Map Unit Composition

Del Rey and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain more sand in the surface layer and the upper part of the subsoil
- Soils that contain less clay and more silt in the subsoil
- Soils that contain more gravel in the profile
- Soils that have a thicker and darker surface layer
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Milford and similar soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Del Rey Soil

Parent material: Lacustrine deposits

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Not hydric

Drummer Series

Drainage class: Poorly drained

Landform: Outwash plains and ground moraines

Parent material: Loess or other silty material and the underlying outwash

Slope range: 0 to 2 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Drummer silty clay loam, 0 to 2 percent slopes; at an elevation of 735 feet; 1,400 feet south and 200 feet east of the northwest corner of section 2, T. 25 N., R. 6 E.; Livingston County, Illinois; USGS Forrest South topographic quadrangle; lat. 40 degrees 40 minutes 06 seconds N. and long. 88 degrees 29 minutes 48 seconds W., NAD 27; UTM Zone 16T, 0373479 Easting and 4503002 Northing, NAD 83:

- Ap—0 to 10 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.
- A—10 to 14 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; few very fine roots; neutral; clear smooth boundary.
- B_{Ag}—14 to 18 inches; dark gray (10YR 4/1) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- B_g—18 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine black (10YR 2/1) very weakly cemented iron-manganese oxide concretions throughout; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; neutral; clear smooth boundary.
- B_{tg}1—24 to 30 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (10YR 2/1) very weakly cemented iron-manganese oxide concretions throughout; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; neutral; clear smooth boundary.
- B_{tg}2—30 to 42 inches; grayish brown (2.5Y 5/2) silt loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (10YR 2/1) very weakly cemented iron-manganese oxide concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; neutral; clear smooth boundary.
- 2B_{tg}3—42 to 50 inches; grayish brown (2.5Y 5/2) stratified silt loam and loam; weak coarse prismatic structure; friable; few very fine roots; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (10YR 2/1) very weakly cemented iron-manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 2 percent gravel; neutral; clear smooth boundary.
- 2C_g—50 to 60 inches; light brownish gray (2.5Y 6/2) stratified silt loam and loam; massive; friable; few fine black (10YR 2/1) very weakly cemented iron-manganese

oxide concretions throughout; many coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; very slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or other silty material: 40 to 60 inches

Depth to carbonates: More than 40 inches

Depth to the base of soil development: 40 to 60 inches

Ap or A horizon:

Hue—10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—silty clay loam

B_{Ag}, B_g, or B_{tg} horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—1 or 2

Texture—silty clay loam or silt loam

2B_{tg} horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—loam, silt loam, sandy loam, sandy clay loam, or clay loam; stratified in some pedons

2C_g horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—stratified loam, silt loam, sandy loam, clay loam, silty clay loam, or loamy sand

152A—Drummer silty clay loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and ground moraines

Position on the landform: Toeslopes

Map Unit Composition

Drummer and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that are overlain by light-colored, recent deposits
- Soils that have outwash beginning at a depth of less than 40 inches or more than 60 inches
- Soils that have till in the lower part of the profile
- Soils that have sandy and gravelly deposits in the lower part of the profile
- Soils that have a thinner or thicker surface soil
- Soils that have carbonates at a depth of less than 40 inches

Dissimilar components:

- The calcareous, poorly drained Harpster soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land
- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Drummer Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 7.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

848B—Drummer-Barrington-Mundelein complex, 1 to 6 percent slopes

Setting

Landform: Outwash plains

Position on the landform: Drummer—toeslopes; Barrington—summits and backslopes;
Mundelein—summits and footslopes

Map Unit Composition

Drummer and similar soils: 40 percent

Barrington and similar soils: 30 percent

Mundelein and similar soils: 25 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 1 percent or more than 6 percent
- Soils that have till in the lower part of the profile
- Soils that have sandy and gravelly deposits in the lower part of the profile
- Soils that have a thinner surface layer

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits and backslopes

Properties and Qualities of the Drummer Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 7.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Properties and Qualities of the Barrington Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February
through April)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Properties and Qualities of the Mundelein Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 1 to 2 feet below the surface (January through
May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Drummer—2w; Barrington—3e; Mundelein—1

Prime farmland category: Not prime farmland

Hydric soil status: Drummer—hydric; Barrington and Mundelein—not hydric

Hydric criteria code: 2B3

Dunham Series

Drainage class: Poorly drained

Permeability: Moderate in the upper part of the profile and very rapid in the lower part

Landform: Outwash plains and stream terraces

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash

Slope range: 0 to 2 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Dunham silty clay loam, 0 to 2 percent slopes; at an elevation of 690 feet; 1,060 feet south and 2,360 feet east of the northwest corner of section 11, T. 38 N., R. 9 E.; Du Page County, Illinois; USGS Naperville topographic quadrangle; lat. 41 degrees 47 minutes 43 seconds N. and long. 88 degrees 10 minutes 39 seconds W., NAD 27; UTM Zone 16T, 0402169 Easting and 4627738 Northing, NAD 83:

- Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; many very fine roots; neutral; clear smooth boundary.
- A—7 to 11 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium subangular blocky structure parting to moderate fine and medium granular; friable; common very fine roots; common fine distinct brown (10YR 4/3) masses of oxidized iron-manganese in the matrix; neutral; clear smooth boundary.
- Btg1—11 to 15 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine faint brown (10YR 5/3) masses of oxidized iron-manganese in the matrix; neutral; clear smooth boundary.
- Btg2—15 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common black (2.5Y 2.5/1) krotovinas; many fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; neutral; clear smooth boundary.
- Bg1—24 to 31 inches; gray (2.5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium angular blocky; friable; few very fine roots; common very dark gray (2.5Y 3/1) krotovinas; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint gray (5Y 6/1) iron depletions in the matrix; neutral; clear wavy boundary.
- 2Bg2—31 to 35 inches; gray (2.5Y 5/1) clay loam; weak medium subangular blocky structure; friable; few very fine roots; common very dark gray (2.5Y 3/1) krotovinas; common fine distinct light olive brown (2.5Y 5/3) masses of oxidized iron-manganese in the matrix; common fine faint gray (5Y 6/1) iron depletions in the matrix; 12 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2BCg—35 to 42 inches; grayish brown (2.5Y 5/2) stratified gravelly loam and gravelly sandy loam; weak coarse subangular blocky structure; friable; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; 18 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

3C—42 to 60 inches; brown (10YR 5/3) very gravelly loamy sand; massive; very friable; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; 50 percent gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or other silty material: 24 to 50 inches

Depth to sandy and gravelly outwash: 32 to 55 inches

Depth to carbonates: 30 to 50 inches

Depth to the base of soil development: 36 to 55 inches

Ap or A horizon:

Hue—10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—silty clay loam or silt loam

Btg or Bg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam

2Bg or 2BCg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—5 or 6

Chroma—0 to 2

Texture—loam, clay loam, silt loam, or sandy loam or the gravelly analogs of these textures

Content of rock fragments—0 to 20 percent

3C horizon:

Hue—7.5YR, 10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 8

Texture—gravelly sandy loam to extremely gravelly coarse sand

Content of rock fragments—15 to 70 percent

523A—Dunham silty clay loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Toeslopes

Map Unit Composition

Dunham and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain less sand and more clay in the lower part of the profile
- Soils that have no subsurface layer
- Soils that contain more sand in the upper half of the subsoil
- Soils that have sandy and gravelly deposits at a depth of less than 32 inches or more than 55 inches
- Soils that have carbonates at a depth of more than 50 inches

Dissimilar components:

- The very poorly drained, organic Houghton soils on toeslopes
- Poorly drained soils that are moderately deep to bedrock; on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Dunham Soil

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 40 to 55 inches to strongly contrasting textural stratification

Available water capacity: About 8.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

Elliott Series

Drainage class: Somewhat poorly drained

Landform: Ground moraines and end moraines

Parent material: Thin mantle of loess or other silty material and the underlying till

Slope range: 0 to 4 percent

Taxonomic classification: Fine, illitic, mesic Aquic Argiudolls

Typical Pedon

Elliott silt loam, 0 to 2 percent slopes (fig. 8); at an elevation of 704 feet; 690 feet south and 2,436 feet west of the center of section 21, T. 29 N., R. 8 E.; Livingston County, Illinois; USGS Cullom topographic quadrangle; lat. 40 degrees 58 minutes 12 seconds N. and long. 88 degrees 19 minutes 19 seconds W., NAD 27; UTM Zone 16T, 0388762 Easting and 4536262 Northing, NAD 83:

Ap—0 to 6 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

A—6 to 11 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common fine roots; slightly acid; clear smooth boundary.

Bt1—11 to 16 inches; light olive brown (2.5Y 5/4) silty clay; moderate fine subangular blocky structure; friable; common fine roots; few distinct black (10YR 2/1) organic



Figure 8.—Profile of Elliott silt loam, 0 to 2 percent slopes, which developed in fine textured till.

coatings on faces of peds; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; neutral; clear smooth boundary.

2Bt2—16 to 23 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.

2Btg—23 to 28 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 1 percent gravel; neutral; clear smooth boundary.

2B't1—28 to 35 inches; olive brown (2.5Y 4/4) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; few fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few medium white (10YR 8/1) moderately cemented calcium carbonate concretions throughout; 1 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2B't2—35 to 41 inches; olive brown (2.5Y 4/4) silty clay loam; weak fine prismatic structure parting to moderate medium angular blocky; firm; few fine roots; common distinct gray (5Y 6/1) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.

2Cd—41 to 60 inches; olive brown (2.5Y 4/4) silty clay loam; massive; very firm; common fine prominent gray (5Y 5/1) iron depletions in the matrix; 3 percent pebbles; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or other silty material: Less than 20 inches

Depth to carbonates: 17 to 40 inches

Depth to the base of soil development: 20 to 45 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

Bt, 2Bt, 2Btg, or 2B't horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam or silty clay

Content of rock fragments—less than 10 percent

2Cd horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam

Content of rock fragments—less than 15 percent

146A—Elliott silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and footslopes

Map Unit Composition

Elliott and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that contain less clay and more silt or sand in the subsoil
- Soils that formed in lacustrine sediments
- Soils that have slopes of more than 2 percent
- Soils that have a thinner surface soil
- Soils that formed in more than 20 inches of loess or other silty material

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

146B—Elliott silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Backslopes and footslopes

Map Unit Composition

Elliott and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that have more than 20 inches of loess or other silty material
- Soils that are moderately eroded
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that contain less clay and more silt or sand in the subsoil

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

822A—Alfic Udarents, clayey-Elliott complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits; Elliott—summits and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 50 percent

Elliott and similar soils: 40 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- Areas of urban land

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

822B—Alfic Udarents, clayey-Elliott complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits and backslopes; Elliott—backslopes and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 50 percent

Elliott and similar soils: 40 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- Areas of urban land

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

2822A—Alfic Udarents, clayey-Urban land-Elliott complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits; Elliott—summits and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Elliott and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Elliot—2s; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Elliot—not hydric; Urban land—not applicable

2822B—Alfic Udarents, clayey-Urban land-Elliott complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits and backslopes; Elliott—backslopes and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Elliott and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Elliot—2e; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Elliot—not hydric; Urban land—not applicable

Faxon Series

Drainage class: Poorly drained

Landform: Flood-plain steps and flood plains

Parent material: Alluvium over limestone bedrock

Slope range: 0 to 2 percent

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Faxon silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded; at an elevation of 588 feet; 175 feet south and 1,600 feet east of the northwest corner of section 20, T. 37 N., R. 11 E.; Cook County, Illinois; USGS Romeoville topographic quadrangle; lat. 41 degrees 41 minutes 06 seconds N. and long. 88 degrees 00 minutes 17 seconds W., NAD 27; UTM Zone 16T, 0416372 Easting and 4615299 Northing, NAD 83:

A—0 to 12 inches; very dark gray (10YR 3/1) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; many fine roots; slightly alkaline; gradual smooth boundary.

AB—12 to 20 inches; very dark gray (10YR 3/1) to dark gray (10YR 4/1) silty clay loam; weak fine subangular blocky structure; friable; many fine roots; few fine dark iron-manganese concretions throughout; common fine prominent brown (7.5YR 4/4) masses of oxidized iron-manganese in the matrix; slightly effervescent; slightly alkaline; gradual wavy boundary.

Bg—20 to 30 inches; dark gray (10YR 4/1) silty clay loam; weak medium subangular blocky structure; friable; common fine roots; many fine brown (7.5YR 4/4) very

weakly cemented and moderately cemented iron-manganese oxide concretions throughout; common medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; slightly effervescent; slightly alkaline; abrupt smooth boundary.

2R—30 inches; light gray (10YR 7/2) and very pale brown (10YR 7/3) level-bedded limestone bedrock; slightly effervescent.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Depth to lithic contact: 20 to 40 inches

Depth to the base of soil development: 20 to 40 inches

Ap, A, or AB horizon:

Hue—10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—silty clay loam

Bg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 or 5

Chroma—0 to 2

Texture—silt loam or silty clay loam

Content of rock fragments—less than 15 percent

The Faxon soils in this survey area are considered a taxadjunct to the Faxon series because they average less than 15 percent fine and coarser sand in the particle-size control section. This difference, however, does not significantly affect the use and management of the soils.

1516A—Faxon silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood-plain steps and flood plains

Map Unit Composition

Faxon and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that are overlain by recent, light-colored deposits
- Soils that have no subsurface layer
- Soils that have bedrock beginning at a depth of less than 20 inches or more than 40 inches

Dissimilar components:

- The poorly drained Romeo soils, which are very shallow to bedrock, on flood plains

Properties and Qualities of the Faxon Soil

Parent material: Drift over bedrock

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid or rapid

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

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Available water capacity: About 6.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 7.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(November through June)

Ponding: At the surface to 0.5 foot above the surface (November through June)

Flooding: Frequent (November through June)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 5w

Prime farmland category: Not prime farmland

Hydric soil status: Hydric

Hydric criteria codes: 2B3, 3

Fox Series

Drainage class: Well drained

Permeability: Moderate in the upper part of the profile and very rapid in the lower part

Landform: Outwash plains and stream terraces

Parent material: Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Slope range: 0 to 6 percent

Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Fox silt loam, 2 to 4 percent slopes; at an elevation of 602 feet; 760 feet north and 2,120 feet east of the southwest corner of section 21, T. 36 N., R. 9 E.; Will County, Illinois; USGS Plainfield topographic quadrangle; lat. 41 degrees 34 minutes 53 seconds N. and long. 88 degrees 12 minutes 45 seconds W., NAD 27; UTM Zone 16T, 0398920 Easting and 4604010 Northing, NAD 83:

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; common fine roots; neutral; clear smooth boundary.

BE—4 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; common very fine and fine roots; few prominent light brownish gray (10YR 6/2) (dry) silt coatings on horizontal faces of peds; neutral; gradual smooth boundary.

Bt1—7 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; common faint brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.

2Bt2—13 to 24 inches; brown (7.5YR 4/3) clay loam; moderate medium and coarse subangular blocky structure; firm; common fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; common fine yellowish brown (10YR 5/6) weakly cemented iron-manganese oxide concretions throughout; 7 percent gravel; very slightly effervescent; slightly alkaline; gradual wavy boundary.

2BCt—24 to 28 inches; dark yellowish brown (10YR 4/4) gravelly loam; weak medium and coarse subangular blocky structure; firm; few distinct brown (10YR 4/3) clay films on vertical faces of peds; common fine yellowish brown (10YR 5/8) weakly

cemented iron-manganese oxide concretions throughout; 15 percent gravel; strongly effervescent; moderately alkaline; gradual wavy boundary.
3C—28 to 60 inches; 80 percent brownish yellow (10YR 6/6) and 20 percent yellowish brown (10YR 5/4) gravelly coarse sand; single grain; loose; 20 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 24 inches

Depth to sandy and gravelly deposits: 20 to 40 inches

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 20 to 40 inches

Ap or A horizon:

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 to 3

Texture—silt loam

E or BE horizon (if it occurs):

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—silt loam

Bt horizon:

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—4

Texture—silty clay loam or silt loam

2Bt or 2BCt horizon:

Hue—5YR, 7.5YR, or 10YR

Value—3 or 4

Chroma—3 or 4

Texture—clay loam, loam, sandy clay loam, or sandy loam or the gravelly analogs of these textures

Content of rock fragments—less than 35 percent

3C horizon:

Hue—7.5YR or 10YR

Value—4 to 7

Chroma—3 or 4

Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand or coarse sand; stratified in most pedons

Content of rock fragments—15 to 80 percent

327A—Fox silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Summits

Map Unit Composition

Fox and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a darker colored surface layer
- Soils that contain less sand and more clay or silt in the lower half of the profile
- Soils that have sandy and gravelly deposits beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet
- Soils that contain lacustrine deposits or till in the lower part of the profile

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Fox Soil

Parent material: Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification

Available water capacity: About 6.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

327B—Fox silt loam, 2 to 4 percent slopes

Setting

Landform: Stream terraces and outwash plains

Position on the landform: Summits and backslopes

Map Unit Composition

Fox and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a darker colored surface layer
- Soils that contain less sand and more clay or silt in the lower half of the profile
- Soils that have sandy and gravelly deposits beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that contain lacustrine deposits or till in the lower part of the profile

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Fox Soil

Parent material: Loess and/or loamy outwash over sandy and gravelly outwash

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification

Available water capacity: About 6.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

327C2—Fox silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Shoulders and backslopes

Map Unit Composition

Fox and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain less sand and more clay or silt in the upper half of the profile
- Soils that have sandy and gravelly deposits beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have a darker colored surface layer
- Soils that contain lacustrine deposits or till in the lower part of the profile

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Fox Soil

Parent material: Loess and/or loamy outwash over sandy and gravelly outwash

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification

Available water capacity: About 5.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Accelerated erosion: The surface layer has been thinned by erosion
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Frankfort Series

Drainage class: Somewhat poorly drained
Permeability: Slow in the upper part and very slow in the lower part
Landform: Ground moraines, end moraines, and lake plains
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 0 to 6 percent
Taxonomic classification: Fine, illitic, mesic Udollic Epiaqualfs

Typical Pedon

Frankfort silt loam, 2 to 4 percent slopes; at an elevation of 675 feet; 2,460 feet south and 240 feet east of the northwest corner of section 26, T. 44 N., R. 11 E.; Lake County, Illinois; USGS Libertyville topographic quadrangle; lat. 42 degrees 15 minutes 44.6 seconds N. and long. 87 degrees 55 minutes 26.4 seconds W., NAD 27; UTM Zone 16T, 0423786 Easting and 4679327 Northing, NAD 83:

- A—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many very fine and fine roots; neutral; abrupt smooth boundary.
- EBg—8 to 12 inches; dark grayish brown (10YR 4/2) silty clay loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; common very fine and fine roots; many prominent very dark gray (10YR 3/1) organic coatings on faces of peds and in pores; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.
- Bt—12 to 18 inches; brown (10YR 4/3) silty clay; moderate fine and medium subangular blocky structure; friable; common very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on surfaces along pores; many continuous distinct dark grayish brown (10YR 4/2) clay films on faces of peds and in pores; common fine and medium strong brown (7.5YR 5/6) weakly cemented iron oxide concretions throughout; few fine black (7.5YR 2.5/1) strongly cemented manganese concretions throughout; common fine and medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly acid; gradual wavy boundary.
- Btg1—18 to 24 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine and medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on surfaces along pores; many distinct dark gray (10YR 4/1) clay films on faces of peds and in pores; common medium strong brown (7.5YR 5/6) weakly cemented iron oxide concretions throughout; few fine black (7.5YR 2.5/1)

strongly cemented manganese concretions throughout; common fine and medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; 1 percent gravel; neutral; gradual wavy boundary.

Btg2—24 to 32 inches; grayish brown (10YR 5/2) silty clay; moderate medium and coarse prismatic structure parting to weak medium and coarse subangular blocky; firm; common prominent very dark brown (10YR 2/2) organo-clay films on faces of peds and in pores; few fine prominent reddish yellow (7.5YR 7/6) masses of oxidized iron in the matrix; common fine and medium prominent reddish yellow (7.5YR 6/8) weakly cemented iron oxide concretions throughout; common fine black (7.5YR 2.5/1) strongly cemented manganese concretions throughout; many medium faint gray (2.5Y 6/1) iron depletions in the matrix; 2 percent gravel; neutral; clear wavy boundary.

BCg—32 to 37 inches; 60 percent gray (10YR 6/1) and 40 percent brown (10YR 5/3) silty clay; weak coarse prismatic structure parting to weak coarse angular blocky; very firm; few distinct very dark gray (10YR 3/1) organic coatings on surfaces along pores; common fine prominent dark yellowish brown (10YR 4/6) weakly cemented iron oxide concretions throughout; common medium distinct white (10YR 8/1) carbonate masses throughout; 2 percent gravel; strongly effervescent; moderately alkaline; gradual wavy boundary.

Cd—37 to 60 inches; 60 percent gray (2.5Y 5/1) and 40 percent dark yellowish brown (10YR 4/4) silty clay loam; massive; very firm; few prominent very dark gray (10YR 3/1) organic coatings on surfaces along pores; common medium distinct brown (10YR 5/3) weakly cemented iron-manganese oxide concretions throughout; common coarse prominent white (10YR 8/1) carbonate masses throughout; 1 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 20 inches

Depth to carbonates: 18 to 40 inches

Depth to the base of soil development: 24 to 42 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

EB or EBg horizon:

Hue—10YR

Value—4 or 5

Chroma—1 or 2

Texture—silt loam or silty clay loam

Bt or Btg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 3

Texture—silty clay or clay

Content of rock fragments—less than 7 percent

BC or BCg horizon:

Hue—10YR to 5Y

Value—4 or 6

Chroma—2 or 6

Texture—silty clay or clay

Cd horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay, silty clay loam, or clay

Content of rock fragments—less than 10 percent

320A—Frankfort silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and footslopes

Map Unit Composition

Frankfort and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a thicker surface layer
- Soils that have a lighter colored surface layer
- Soils that contain less clay and more silt in the subsoil and underlying material
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Bryce and similar soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Frankfort Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 24 to 42 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w

Prime farmland category: Prime farmland where drained

Hydric soil status: Not hydric

320B—Frankfort silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Footslopes and backslopes

Map Unit Composition

Frankfort and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that contain less clay and more silt in the subsoil and underlying material
- Soils with slopes of less than 2 percent or more than 4 percent
- Soils that have a lighter colored surface layer

Dissimilar components:

- The poorly drained Bryce and similar soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Frankfort Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 24 to 42 inches to densic material

Available water capacity: About 5.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

320C2—Frankfort silty clay loam, 4 to 6 percent slopes, eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes and shoulders

Map Unit Composition

Frankfort and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a lighter colored surface layer
- Soils that contain less clay and more silt in the subsoil and underlying material
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that contain more sand in the surface layer and upper part of the subsoil

Dissimilar components:

- The poorly drained Bryce soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Frankfort Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 24 to 42 inches to densic material

Available water capacity: About 4.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very high

Susceptibility to water erosion: Moderate

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

925B—Frankfort-Bryce complex, 1 to 6 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Frankfort—footslopes and backslopes; Bryce—toeslopes

Map Unit Composition

Frankfort and similar soils: 53 percent

Bryce and similar soils: 42 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 1 percent or more than 6 percent

- Soils that have a thinner or lighter colored surface layer
- Soils that contain less clay and more silt in the subsoil

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes

Properties and Qualities of the Frankfort Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 24 to 42 inches to densic material

Available water capacity: About 5.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Properties and Qualities of the Bryce Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 6.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Frankfort—3e; Bryce—3w

Prime farmland category: Not prime farmland

Hydric soil status: Frankfort—not hydric; Bryce—hydric

Hydric criteria code: 2B3

Gilford Series

Drainage class: Poorly drained

Landform: Outwash plains

Parent material: Outwash

Slope range: 0 to 2 percent

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Gilford fine sandy loam, 0 to 2 percent slopes; at an elevation of 544 feet; 231 feet north and 75 feet east of the southwest corner of section 27, T. 33 N., R. 8 E.; Grundy County, Illinois; USGS Coal City topographic quadrangle; lat. 41 degrees 18 minutes 09 seconds N. and long. 88 degrees 18 minutes 17 seconds W., NAD 27; UTM Zone 16T, 0390775 Easting and 4573153 Northing, NAD 83:

- Ap—0 to 10 inches; black (10YR 2/1) fine sandy loam; weak fine granular structure; very friable; slightly alkaline; abrupt smooth boundary.
- A—10 to 17 inches; very dark gray (10YR 3/1) fine sandy loam; weak medium subangular blocky structure; friable; neutral; gradual wavy boundary.
- AB—17 to 22 inches; very dark grayish brown (2.5Y 3/2) fine sandy loam; weak fine and medium prismatic structure parting to moderate medium subangular blocky; friable; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; few fine faint olive brown (2.5Y 4/4) masses of oxidized iron-manganese in the matrix; neutral; gradual smooth boundary.
- Bg1—22 to 33 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak medium prismatic structure parting to moderate medium and coarse subangular blocky; friable; few faint very dark grayish brown (2.5Y 3/2) organic coatings on faces of peds; common fine faint dark gray (10YR 4/1) weakly cemented manganese nodules throughout; common fine prominent yellowish brown (10YR 5/6) and few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; neutral; gradual wavy boundary.
- Bg2—33 to 41 inches; 60 percent grayish brown (2.5Y 5/2) and 40 percent dark grayish brown (2.5Y 4/2) fine sandy loam; weak coarse prismatic structure parting to weak coarse subangular blocky; friable; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; neutral; gradual wavy boundary.
- Cg—41 to 54 inches; light olive gray (5Y 6/2) sand; single grain; loose; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; gradual wavy boundary.
- C—54 to 60 inches; yellowish brown (10YR 5/8) sand; single grain; loose; common medium prominent gray (5Y 6/1) and light olive gray (5Y 6/2) iron depletions in the matrix; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Depth to the base of soil development: 24 to 50 inches

Ap, A, or AB horizon:

Hue—10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—fine sandy loam

Bg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—fine sandy loam or sandy loam

Cg horizon:

Hue—10YR to 5Y

Value—4 to 7

Chroma—1 to 3

Texture—loamy sand, sand, or fine sand

Content of rock fragments—less than 10 percent

201A—Gilford fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains

Position on the landform: Toeslopes

Map Unit Composition

Gilford and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that contain more than 10 percent gravel in the lower part of the profile
- Soils that have a seasonal high water table beginning at a depth of 1 to 2 feet
- Soils that have a thicker surface soil
- Soils that contain less sand and more clay throughout the profile
- Soils that contain lacustrine deposits in the lower part of the profile

Dissimilar components:

- Poorly drained, calcareous soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Gilford Soil

Parent material: Outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately rapid

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 6.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Low

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

Graymont Series

Drainage class: Moderately well drained

Landform: Ground moraines and end moraines

Parent material: Loess or other silty material and the underlying till

Slope range: 2 to 5 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls

Typical Pedon

Graymont silt loam, 2 to 5 percent slopes; at an elevation of 704 feet; 2,100 feet north and 100 feet east of the southwest corner of section 28, T. 28 N., R. 3 E.; Livingston County, Illinois; USGS Flanagan Southwest topographic quadrangle; lat. 40 degrees 51 minutes 41 seconds N. and long. 88 degrees 53 minutes 30 seconds W., NAD 27; UTM Zone 16T, 0340565 Easting and 4525111 Northing, NAD 83:

- Ap—0 to 7 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; few very fine roots; slightly acid; abrupt smooth boundary.
- AB—7 to 12 inches; very dark brown (10YR 2/2) silt loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; few very fine roots; slightly acid; clear smooth boundary.
- Bt1—12 to 19 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine angular blocky structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—19 to 24 inches; yellowish brown (10YR 5/4 and 5/6) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt3—24 to 28 inches; yellowish brown (10YR 5/4 and 5/6) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.
- Bt4—28 to 33 inches; brown (10YR 5/3) silt loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; clear smooth boundary.
- 2Btg—33 to 38 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure; firm; few very fine roots; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; 3 percent gravel; neutral; clear smooth boundary.
- 2Cg—38 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; few fine black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; few fine white (10YR 8/1) very weakly cemented calcium carbonate concretions throughout; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; few fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 3 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or other silty material: 20 to 40 inches

Depth to carbonates: 24 to 40 inches

Depth to the base of soil development: 24 to 45 inches

Ap or AB horizon:

Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 or 4
Texture—silty clay loam or silt loam

2Btg horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or silt loam
Content of rock fragments—1 to 10 percent

2Cg horizon:

Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or silt loam
Content of rock fragments—1 to 12 percent

541B—Graymont silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and backslopes

Map Unit Composition

Graymont and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have till beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have less silt and more sand in the lower part of the profile
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet

Dissimilar components:

- Poorly drained soils on toeslopes
- Areas of urban land

Properties and Qualities of the Graymont Soil

Parent material: Loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Soil Survey of Cook County, Illinois

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Grays Series

Drainage class: Moderately well drained

Permeability: Moderate

Landform: Outwash plains, stream terraces, and lake plains

Parent material: Loess or other silty material and the underlying outwash

Slope range: 2 to 4 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Mollic Oxyaquic
Hapludalfs

Typical Pedon

Grays silt loam, 2 to 4 percent slopes; at an elevation of 790 feet; 575 feet north and 1,500 feet east of the southwest corner of section 14, T. 45 N., R. 10 E.; Lake County, Illinois; USGS Grayslake topographic quadrangle; lat. 42 degrees 22 minutes 22 seconds N. and long. 88 degrees 02 minutes 16 seconds W., NAD 27; UTM Zone 16T, 0414556 Easting and 4691688 Northing, NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common very fine roots; slightly acid; gradual wavy boundary.

BE—8 to 11 inches; 70 percent dark yellowish brown (10YR 4/4) and 30 percent brown (10YR 4/3) silt loam; weak very fine and fine subangular blocky structure; friable; common very fine and fine roots; common distinct very dark grayish brown (10YR 3/2) and few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; gradual smooth boundary.

Bt1—11 to 18 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; neutral; gradual wavy boundary.

Bt2—18 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds and in pores; many distinct brown (10YR 4/3) clay films on faces of peds; neutral; gradual wavy boundary.

- Bt3—24 to 34 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in pores; common distinct brown (10YR 4/3) clay films on faces of peds; common fine black (10YR 2/1) iron-manganese concretions throughout; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly alkaline; clear wavy boundary.
- 2Bt4—34 to 42 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; common very fine roots; few distinct brown (10YR 5/3) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; 2 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.
- 2C1—42 to 50 inches; yellowish brown (10YR 5/4) loam; massive; friable; common medium distinct strong brown (7.5YR 4/6) and common medium faint light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; common medium and coarse distinct grayish brown (10YR 5/2) and light brownish gray (10YR 6/2) iron depletions in the matrix; 4 percent gravel; strongly effervescent; moderately alkaline; gradual wavy boundary.
- 2C2—50 to 60 inches; yellowish brown (10YR 5/4) stratified loam and sandy loam; massive; very friable; common medium distinct strong brown (7.5YR 4/6) masses of oxidized iron in the matrix; 6 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: 22 to 40 inches

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 24 to 45 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

Bt or BE horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam or silt loam

2Bt horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam, loam, or sandy loam

Content of rock fragments—less than 7 percent

2C horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 8

Texture—stratified loamy sand to silt loam

Content of rock fragments—less than 15 percent

698B—Grays silt loam, 2 to 4 percent slopes

Setting

Landform: Outwash plains, stream terraces, and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Grays and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have carbonates beginning at a depth of less than 20 inches or more than 40 inches
- Soils that contain lacustrine deposits or till in the lower part of the profile
- Soils that have a lighter colored surface layer
- Soils that contain loamy outwash beginning at a depth of less than 22 inches or more than 40 inches
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Drummer and Pella soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Grays Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Griswold Series

Drainage class: Well drained

Landform: Ground moraines and end moraines

Parent material: Till

Soil Survey of Cook County, Illinois

Slope range: 2 to 6 percent

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Griswold loam, 4 to 6 percent slopes, eroded; at an elevation of about 830 feet; 954 feet north and 1,587 feet west of the southeast corner of section 33, T. 46 N., R. 8 E.; McHenry County, Illinois; USGS Richmond topographic quadrangle; lat. 42 degrees 25 minutes 02 seconds N. and long. 88 degrees 18 minutes 07 seconds W., NAD 27; UTM Zone 16T, 0392868 Easting and 4696936 Northing, NAD 83:

- Ap—0 to 10 inches; 95 percent very dark grayish brown (10YR 3/2) and 5 percent brown (10YR 4/3) loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to moderate fine and medium granular; friable; many very fine roots; 1 percent gravel; neutral; clear smooth boundary.
- Bt1—10 to 14 inches; 85 percent dark yellowish brown (10YR 4/4) and 15 percent very dark grayish brown (10YR 3/2) clay loam; moderate very fine and fine subangular blocky structure; friable; many very fine roots; few distinct brown (10YR 4/3) clay films and dark brown (10YR 3/3) organo-clay films on faces of peds and in pores; 1 percent gravel; neutral; clear smooth boundary.
- Bt2—14 to 20 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine and medium subangular blocky structure; friable; many very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds and in pores; 3 percent gravel; neutral; clear wavy boundary.
- Bt3—20 to 24 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; very few distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and in pores; 5 percent gravel; neutral; clear smooth boundary.
- BC—24 to 27 inches; yellowish brown (10YR 5/4) sandy loam; weak medium subangular blocky structure; friable; common very fine roots; 10 percent gravel; slightly effervescent; slightly alkaline; clear wavy boundary.
- C—27 to 60 inches; yellowish brown (10YR 5/4) sandy loam; massive; friable; few very fine roots; 13 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 7 to 16 inches

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 24 to 40 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—loam

Bt or BC horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—clay loam, loam, sandy clay loam, or sandy loam

Content of rock fragments—less than 15 percent

C horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—sandy loam, fine sandy loam, or gravelly sandy loam

Content of rock fragments—6 to 35 percent

363B—Griswold loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and shoulders

Map Unit Composition

Griswold and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain less sand and more silt in the upper one-third of the profile
- Soils that are moderately eroded
- Soils that contain more clay in the lower part of the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The well drained Warsaw soils, which are moderately deep to sandy and gravelly deposits, on summits and backslopes
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Griswold Soil

Parent material: Till

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.5 to 4.0 percent

Shrink-swell potential: Moderate

Potential for frost action: Moderate

Hazard of corrosion: Low for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

363C2—Griswold loam, 4 to 6 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines

Position on the landform: Shoulders and backslopes

Map Unit Composition

Griswold and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have carbonates beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have till beginning at a depth of more than 15 inches
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that contain more clay in the lower part of the profile

Dissimilar components:

- The well drained Warsaw soils, which are moderately deep to sandy and gravelly deposits, on backslopes and summits
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Griswold Soil

Parent material: Till

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.5 percent

Shrink-swell potential: Moderate

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: Low for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Grundelein Series

Drainage class: Somewhat poorly drained

Permeability: Moderate in the upper part of the profile and very rapid in the lower part

Landform: Outwash plains and stream terraces

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash

Slope range: 0 to 2 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Grundelein silt loam, 0 to 2 percent slopes; at an elevation of 765 feet; 2,425 feet south and 2,415 feet east of the northwest corner of section 20, T. 40 N., R. 9 E.; Du Page County, Illinois; USGS West Chicago topographic quadrangle; lat. 41 degrees

Soil Survey of Cook County, Illinois

56 minutes 12 seconds N. and long. 88 degrees 14 minutes 02 seconds W., NAD 27;
UTM Zone 16T, 0397710 Easting and 4643481 Northing, NAD 83:

- Ap—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common very fine roots; slightly acid; clear smooth boundary.
- A—8 to 13 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure parting to moderate fine granular; friable; common very fine roots; neutral; abrupt smooth boundary.
- Btg—13 to 18 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; common distinct very dark gray (10YR 3/1) organic coatings and very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.
- Bt1—18 to 25 inches; olive brown (2.5Y 4/3) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; common very fine roots; few distinct very dark grayish brown (2.5Y 3/2) organo-clay films on faces of peds; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; many fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine distinct gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt2—25 to 29 inches; light olive brown (2.5Y 5/3) silty clay loam; moderate fine and medium subangular blocky structure; friable; few very fine roots; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; many fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.
- 2Bt3—29 to 35 inches; light olive brown (2.5Y 5/3) silt loam; moderate medium subangular blocky structure; friable; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 2 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2BC—35 to 43 inches; light olive brown (2.5Y 5/3) sandy loam; weak medium and coarse subangular blocky structure; very friable; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 4 percent gravel; strongly effervescent; moderately alkaline; abrupt wavy boundary.
- 3C—43 to 80 inches; brown (10YR 4/3) very gravelly loamy sand; single grain; loose; 55 percent gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or other silty material: 24 to 45 inches

Depth to sandy and gravelly outwash: 32 to 50 inches

Depth to carbonates: 27 to 50 inches

Depth to the base of soil development: 36 to 50 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 to 3
Texture—silt loam

Bt or Btg horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silt loam

2Bt or 2BC horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—loam, clay loam, silt loam, sandy loam, or the gravelly analogs of these textures
Content of rock fragments—0 to 20 percent

3C horizon:

Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 8
Texture—gravelly sandy loam to extremely gravelly coarse sand
Content of rock fragments—15 to 70 percent

526A—Grundelein silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Footslopes and summits

Map Unit Composition

Grundelein and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have no subsurface layer
- Soils that contain more sand in the upper half of the subsoil
- Soils that have sandy and gravelly deposits at a depth of less than 32 inches or more than 50 inches
- Soils that have carbonates at a depth of more than 50 inches
- Soils that contain less sand and more clay in the lower part of the profile

Dissimilar components:

- The poorly drained Dunham soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Grundelein Soil

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 40 to 50 inches to strongly contrasting textural stratification

Available water capacity: About 8.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 5.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Harpster Series

Drainage class: Poorly drained

Landform: Outwash plains, lake plains, ground moraines, stream terraces, and depressions

Parent material: Calcareous loess or other silty material over drift

Slope range: 0 to 2 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Calciaquolls

Typical Pedon

Harpster silty clay loam, 0 to 2 percent slopes; at an elevation of 738 feet; 855 feet south and 70 feet west of the northeast corner of section 20, T. 23 N., R. 7 E.; Ford County, Illinois; USGS Gibson City West topographic quadrangle; lat. 40 degrees 26 minutes 24 seconds N. and long. 88 degrees 25 minutes 23 seconds W., NAD 27; UTM Zone 16T, 0379305 Easting and 4477570 Northing, NAD 83:

Apk—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; many snail shells; strongly effervescent (20 percent calcium carbonate equivalent); moderately alkaline; abrupt smooth boundary.

Ak—9 to 18 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak fine and medium granular structure; firm; common very fine roots; many snail shells; strongly effervescent (18 percent calcium carbonate equivalent); moderately alkaline; clear smooth boundary.

Bg1—18 to 25 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak fine and medium angular blocky structure; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few snail shells; common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; slightly effervescent (7 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.

Bg2—25 to 31 inches; dark gray (5Y 4/1) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular blocky; firm; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few snail shells; few fine prominent dark yellowish brown (10YR 4/4) and few fine distinct olive (5Y 4/4) masses of oxidized iron-manganese in the matrix; slightly effervescent (5 percent calcium carbonate equivalent); slightly alkaline; gradual smooth boundary.

Bg3—31 to 36 inches; dark gray (5Y 4/1) silty clay loam; weak coarse prismatic structure parting to weak medium angular blocky; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds;

common medium distinct olive (5Y 4/4) masses of oxidized iron-manganese and few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; slightly effervescent (2 percent calcium carbonate equivalent); slightly alkaline; gradual smooth boundary.

Bg4—36 to 41 inches; 40 percent olive brown (2.5Y 4/4), 35 percent olive yellow (2.5Y 6/6), and 25 percent gray (5Y 5/1) silty clay loam; weak coarse angular blocky structure; firm; few very fine roots; 2 percent gravel; slightly effervescent (2 percent calcium carbonate equivalent); slightly alkaline; gradual smooth boundary.

Cg1—41 to 56 inches; 55 percent gray (5Y 5/1), 40 percent light olive brown (2.5Y 5/6), and 5 percent dark yellowish brown (10YR 4/4) silt loam; massive; firm; 1 percent gravel; strongly effervescent (16 percent calcium carbonate equivalent); moderately alkaline; clear smooth boundary.

2Cg2—56 to 60 inches; gray (10YR 5/1) loam; massive; friable; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Thickness of the loess or other silty material: 36 to 60 inches

Depth to carbonates: Less than 16 inches

Depth to the base of soil development: 22 to 46 inches

Apk or Ak horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 3

Chroma—0 or 1

Texture—silty clay loam

Bg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam

Cg or 2Cg horizon:

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silt loam or loam

67A—Harpster silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines, lake plains, outwash plains, stream terraces, and depressions

Position on the landform: Toeslopes

Map Unit Composition

Harpster and similar soils: 98 percent

Dissimilar components: 2 percent

Components of Minor Extent

Similar soils:

- Soils that contain less clay and more silt in the surface soil
- Soils that contain less silt and more sand in the subsoil
- Soils that are darker colored in the upper part of the subsoil

- Soils that do not contain carbonates at or near the surface
- Soils that contain more gravel in the lower part of the profile

Dissimilar components:

- The very poorly drained, organic Houghton soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits

Properties and Qualities of the Harpster Soil

Parent material: Calcareous loess or other silty material over drift

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity: About 12.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.5 to 6.5 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

Hoopeston Series

Drainage class: Somewhat poorly drained

Permeability: Moderately rapidly

Landform: Lake plains and outwash plains

Parent material: Outwash

Slope range: 0 to 2 percent

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Aquic Hapludolls

Typical Pedon

Hoopeston fine sandy loam, 0 to 2 percent slopes; at an elevation of 607 feet; 600 feet north and 110 feet east of the center of section 13, T. 36 N., R. 13 E.; Cook County, Illinois; USGS Harvey NE topographic quadrangle; lat. 41 degrees 36 minutes 28 seconds N. and long 87 degrees 41 minutes 7 seconds W., NAD 27; UTM Zone 16T, 0442900 Easting and 4606458 Northing, NAD 83:

A1—0 to 9 inches; black (10YR 2/1) fine sandy loam; moderate fine and medium granular structure; friable; many fine and medium roots; neutral; clear wavy boundary.

A2—9 to 13 inches; black (10YR 2/1) fine sandy loam; weak coarse granular structure; friable; many fine and medium roots; neutral; clear wavy boundary.

AB—13 to 17 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate fine subangular blocky structure; friable; common fine and medium roots; many very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear wavy boundary.

- Bt1—17 to 23 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common fine and medium roots; discontinuous thin very dark grayish brown (2.5Y 3/2) to dark grayish brown (2.5Y 4/2) organo-clay films on faces of peds; neutral; clear wavy boundary.
- Bt2—23 to 30 inches; olive brown (2.5Y 4/4) sandy loam; weak coarse prismatic structure parting to moderate coarse subangular blocky structure; friable; common fine roots; many thin olive gray (5Y 4/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron throughout; grayish brown (10YR 5/2) iron depletions throughout; neutral; clear wavy boundary.
- BC—30 to 39 inches; brown (10YR 5/3) stratified very fine sandy loam (80 percent) and loam (20 percent); weak coarse prismatic structure; friable; few fine roots; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron throughout; many medium faint grayish brown (10YR 5/2) iron depletions throughout; slightly effervescent; slightly alkaline; gradual smooth boundary.
- Cg—39 to 60 inches; grayish brown (10YR 5/2) stratified fine sand (60 percent) and silt loam (40 percent); massive; firm; few fine roots; common medium distinct and prominent yellowish brown (10YR 5/4 and 5/6) masses of oxidized iron throughout; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to carbonates: 30 to 42 inches

Depth to the base of soil development: 20 to 54 inches

Ap, A, or AB horizon:

Hue—7.5YR or 10YR

Value—2 to 3

Chroma—1 to 3

Texture—fine sandy loam

Bw, Bt, or BC horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—sandy loam, fine sandy loam, loam, or loamy sand

C or Cg horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 8

Texture—fine sand, loamy fine sand, or loamy sand; commonly with strata of finer textures

172A—Hoopeston fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Lake plains and outwash plains

Position on the landform: Summits and footslopes

Map Unit Composition

Hoopeston and similar soils: 91 percent

Dissimilar components: 9 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface layer
- Soils that have till or lacustrine deposits in the lower part of the profile
- Soils that have more clay and less silt in the subsoil
- Soils that have more sand and less clay and silt in the upper half of the profile
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- The poorly drained Gilford soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Hoopeston Soil

Parent material: Outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderately rapid

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Low

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2s

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

973A—Hoopeston-Selma complex, 0 to 2 percent slopes

Setting

Landform: Lake plains and outwash plains

Position on the landform: Hoopeston—summits and footslopes; Selma—toeslopes

Map Unit Composition

Hoopeston and similar soils: 50 percent

Selma and similar soils: 45 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of more than 2 percent
- Soils that have a lighter colored or thinner surface layer
- Soils that have till or lacustrine deposits in the lower part of the profile
- Soils that have more sand and less clay and silt in the upper half of the profile
- Soils that contain more gravel in the lower part of the profile

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits

Properties and Qualities of the Hoopeston Soil

Parent material: Outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderately rapid

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Low

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderately high

Properties and Qualities of the Selma Soil

Parent material: Outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hoopeston—2s; Selma—2w

Prime farmland category: Not prime farmland

Hydric soil status: Hoopeston—not hydric; Selma—hydric

Hydric criteria code: 2B3

Houghton Series

Drainage class: Very poorly drained

Permeability: Moderately slow

Landform: Ground moraines and outwash plains

Parent material: Herbaceous organic material

Slope range: 0 to 2 percent

Taxonomic classification: Euic, mesic Typic Haplosaprists

Typical Pedon

Houghton muck, 0 to 2 percent slopes; at an elevation of 647 feet; 1,220 feet south and 100 feet west of the northeast corner of section 20, T. 28 N., R. 11 W.; Iroquois County, Illinois; USGS Donovan topographic quadrangle; lat. 40 degrees 54 minutes 12 seconds N. and long. 87 degrees 37 minutes 03 seconds W., NAD 27; UTM Zone 16T, 0447989 Easting and 4528214 Northing, NAD 83:

Oap—0 to 9 inches; black (N 2.5/) (broken face and rubbed) muck (sapric material); less than 5 percent fiber, a trace rubbed; weak fine and very fine granular structure; nonsticky; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Oa1—9 to 19 inches; black (N 2.5/) (broken face) and dark brown (7.5YR 3/2) (rubbed) muck (sapric material); about 5 to 10 percent fiber, a trace rubbed; weak fine subangular blocky structure; nonsticky; many very fine and fine roots; strongly acid; clear smooth boundary.

Oa2—19 to 28 inches; very dark gray (10YR 3/1) (broken face) and brown (7.5YR 4/4) (rubbed) muck (sapric material); about 5 to 10 percent fiber, a trace rubbed; moderate medium platy structure; nonsticky; common very fine and fine roots; slightly acid; clear smooth boundary.

Oa3—28 to 34 inches; very dark gray (10YR 3/1) (broken face) and very dark grayish brown (10YR 3/2) (rubbed) muck (sapric material); less than 5 percent fiber, a trace rubbed; moderate thick platy structure; nonsticky; few very fine and fine roots; slightly acid; clear smooth boundary.

Oa4—34 to 60 inches; black (N 2.5/) (broken face) and black (5Y 2.5/1) (rubbed) muck (sapric material); less than 5 percent fiber, a trace rubbed; massive; nonsticky; common fine white (10YR 8/1) soft masses of calcium carbonate; few broken snail shells; slightly alkaline.

Range in Characteristics

Thickness of the organic material: More than 51 inches

Surface tier:

Hue—10YR or N

Value—2 to 3

Chroma—0 or 1

Subsurface tier:

Hue—7.5YR, 10YR, or N

Value—2 to 3

Chroma—0 to 2

103A—Houghton muck, 0 to 2 percent slopes

Setting

Landform: Ground moraines, outwash plains, and end moraines

Position on the landform: Toeslopes

Map Unit Composition

Houghton and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have a higher content of fiber

- Soils that have a lower content of organic matter in the surface layer
- Soils that have organic deposits less than 51 inches thick

Dissimilar components:

- The poorly drained Selma soils, which formed in mineral deposits, on toeslopes
- Very poorly drained and poorly drained, calcareous soils on toeslopes

Properties and Qualities of the Houghton Soil

Parent material: Herbaceous organic material

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow to moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 23.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 70.0 to 99.0 percent

Shrink-swell potential: Not rated

Apparent seasonal high water table: At the surface to 1 foot below the surface
(November through June)

Ponding: At the surface to 1 foot above the surface (November through June)

Potential for frost action: High

Hazard of corrosion: High for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 3w

Prime farmland category: Farmland of statewide importance

Hydric soil status: Hydric

Hydric criteria code: 1

903A—Muskego and Houghton mucks, 0 to 2 percent slopes

Setting

Landform: Depressions, ground moraines, and outwash plains

Position on the landform: Toeslopes

Map Unit Composition

Muskego and similar soils: 60 percent

Houghton and similar soils: 35 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a surface layer with a lower content of organic matter
- Soils that are lighter colored in the lower half of the profile
- Soils that contain carbonates near the surface
- Soils in which the organic deposits are less than 51 inches thick

Dissimilar components:

- The poorly drained Drummer soils, which formed in mineral deposits, on toeslopes

Properties and Qualities of the Muskego Soil

Parent material: Herbaceous organic material over coprogenic material

Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 19.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 60.0 to 90.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
(November through June)
Ponding: At the surface to 1 foot above the surface (November through June)
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low

Properties and Qualities of the Houghton Soil

Parent material: Herbaceous organic material
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow to moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 23.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 70.0 to 99.0 percent
Shrink-swell potential: Not rated
Apparent seasonal high water table: At the surface to 1 foot below the surface
(November through June)
Ponding: At the surface to 1.0 above the surface (November through June)
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Farmland of statewide importance
Hydric soil status: Hydric
Hydric criteria code: 1

1103A—Houghton muck, undrained, 0 to 2 percent slopes

Setting

Landform: Ground moraines, outwash plains, and end moraines
Position on the landform: Toeslopes

Map Unit Composition

Houghton and similar soils: 91 percent
Dissimilar components: 9 percent

Components of Minor Extent

Similar soils:

- Soils that have a higher content of fiber
- Soils that have a lower content of organic matter in the surface layer
- Soils that have organic deposits less than 51 inches thick

Dissimilar components:

- The poorly drained Drummer and Pella soils, which formed in mineral deposits, on toeslopes
- Very poorly drained, calcareous soils on toeslopes

Properties and Qualities of the Houghton Soil

Parent material: Herbaceous organic material

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow to moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 23.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 70.0 to 99.0 percent

Shrink-swell potential: Not rated

Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through December)

Ponding: At the surface to 1 foot above the surface (January through December)

Potential for frost action: High

Hazard of corrosion: High for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 5w

Prime farmland category: Not prime farmland

Hydric soil status: Hydric

Hydric criteria codes: 1, 3

1903A—Muskego and Houghton mucks, undrained, 0 to 2 percent slopes

Setting

Landform: Depressions, ground moraines, and outwash plains

Position on the landform: Toeslopes

Map Unit Composition

Muskego and similar soils: 50 percent

Houghton and similar soils: 45 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a surface layer with a lower content of organic matter
- Soils that have organic deposits less than 51 inches thick
- Soils that contain carbonates near the surface
- Soils that are lighter colored in the lower half of the profile

Dissimilar components:

- The poorly drained Drummer soils, which formed in mineral deposits, on toeslopes

Properties and Qualities of the Muskego Soil

Parent material: Herbaceous organic material over coprogenic material

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 17.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 60.0 to 90.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through December)
Ponding: At the surface to 1 foot above the surface (January through December)
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Properties and Qualities of the Houghton Soil

Parent material: Herbaceous organic material
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow to moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 23.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 70.0 to 99.0 percent
Shrink-swell potential: Not rated
Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through December)
Ponding: At the surface to 1 foot above the surface (January through December)
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 5w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric
Hydric criteria codes: 1, 3

Kane Series

Drainage class: Somewhat poorly drained
Landform: Outwash plains and stream terraces
Parent material: Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Kane silt loam, 0 to 2 percent slopes; at an elevation of 613 feet; 1,700 feet south and 490 feet west of the northeast corner of section 33, T. 34 N., R. 8 E.; Grundy County, Illinois; USGS Minooka topographic quadrangle; lat. 41 degrees 23 minutes 02

Soil Survey of Cook County, Illinois

seconds N. and long. 88 degrees 18 minutes 32 seconds W., NAD 27; UTM Zone 16T, 0390555 Easting and 4582203 Northing, NAD 83:

- Ap—0 to 7 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.
- A—7 to 11 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; neutral; clear smooth boundary.
- Bt1—11 to 15 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
- Bt2—15 to 20 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; firm; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
- 2Bt3—20 to 26 inches; yellowish brown (10YR 5/4) clay loam; moderate fine subangular blocky structure; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; many fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.
- 2Bt4—26 to 34 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; firm; common distinct brown (7.5YR 4/4) clay films on vertical faces of peds; many medium distinct yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; many fine distinct brown (10YR 5/3) iron depletions in the matrix; 3 percent gravel; neutral; gradual smooth boundary.
- 3C—34 to 65 inches; 60 percent yellowish brown (10YR 5/4) and 40 percent light gray (10YR 7/2) gravelly coarse sand; single grain; loose; 22 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to sandy and gravelly glaciofluvial deposits: 20 to 40 inches

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 20 to 40 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

Bt or 2Bt horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 8

Texture—silty clay loam, clay loam, loam, or sandy loam

Content of rock fragments—less than 15 percent

3C horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 8

Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand, loamy sand, coarse sand, or loamy coarse sand
Content of rock fragments—15 to 70 percent

343A—Kane silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Footslopes and summits

Map Unit Composition

Kane and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have sandy and gravelly outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that contain less sand and more clay or silt in the subsoil
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that have a thinner surface layer

Dissimilar components:

- The poorly drained Will soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Kane Soil

Parent material: Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Kankakee Series

Drainage class: Well drained

Landform: Outwash plains and stream terraces

Parent material: Loamy outwash and the underlying cobbly outwash

Slope range: 2 to 4 percent

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Typic Hapludolls

Typical Pedon

Kankakee fine sandy loam, 0 to 2 percent slopes; at an elevation of 635 feet; 1,660 feet north and 216 feet east of the southwest corner of section 36, T. 31 N., R. 10 E.; Kankakee County, Illinois; USGS Herscher topographic quadrangle; lat. 41 degrees 07 minutes 21 seconds N. and long. 88 degrees 01 minute 44 seconds W., NAD 27; UTM Zone 16T, 0413625 Easting and 4552870 Northing, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) fine sandy loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many very fine roots; neutral; abrupt smooth boundary.

A—7 to 10 inches; very dark grayish brown (10YR 3/2) fine sandy loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many very fine roots; moderately acid; clear smooth boundary.

AB—10 to 14 inches; dark brown (10YR 3/3) fine sandy loam, brown (10YR 5/3) dry; moderate fine and medium subangular blocky structure; friable; many very fine and fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bt1—14 to 22 inches; yellowish brown (10YR 5/4) sandy clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; common distinct dark brown (10YR 3/3) organic coatings on faces of peds; many distinct brown (10YR 4/3) clay films on faces of peds; 3 percent gravel; slightly acid; gradual wavy boundary.

2Bt2—22 to 27 inches; dark yellowish brown (10YR 4/4) very cobbly loam; weak fine subangular blocky structure; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; 25 percent cobbles and 15 percent gravel; neutral; gradual wavy boundary.

2C—27 to 60 inches; dark yellowish brown (10YR 4/4) very cobbly loam; massive; friable; common very fine and fine roots; common fine distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; 40 percent cobbles and 20 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to cobbly outwash: 10 to 30 inches

Depth to the base of soil development: 20 to 45 inches

Ap, A, or AB horizon:

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—fine sandy loam

Bt or Bw horizon:

Hue—10YR

Value—4 to 6

Chroma—3 to 8

Texture—loam, sandy loam, clay loam, or sandy clay loam

Content of cobbles—0 to 15 percent

2Bt or 2Bw horizon:

Hue—10YR

Value—4 to 6

Chroma—3 to 8

Texture—the very cobbly or cobbly analogs of loam or sandy loam
Content of cobbles—15 to 60 percent

2C horizon:

Hue—10YR

Value—4 to 6

Chroma—3 to 8

Texture—the extremely cobbly, very cobbly, or cobbly analogs of loam or sandy loam

Content of cobbles—20 to 70 percent

494B—Kankakee fine sandy loam, 2 to 4 percent slopes

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Summits and backslopes

Map Unit Composition

Kankakee and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface layer
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that contain fewer cobbles in the lower part of the profile
- Soils that contain less sand and more silt in the upper part of the profile
- Soils that contain less clay and more sand and gravel in the lower half of the profile

Dissimilar components:

- The poorly drained Gilford and similar soils on toeslopes
- The somewhat poorly drained Kane soils on summits and footslopes
- The well drained Rockton soils, which are moderately deep to bedrock, on summits and backslopes

Properties and Qualities of the Kankakee Soil

Parent material: Loamy outwash and the underlying cobbly outwash

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Potential for frost action: Moderate

Hazard of corrosion: Low for steel and concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Kidder Series

Drainage class: Well drained

Landform: End moraines and ground moraines

Parent material: Till

Slope range: 2 to 20 percent

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Kidder silt loam, 2 to 6 percent slopes; at an elevation of 885 feet; 140 feet north and 2,450 feet east of the center of section 1, T. 4 N., R. 13 E.; Rock County, Wisconsin; USGS Milton topographic quadrangle; lat. 42 degrees 50 minutes 15 seconds N. and long. 88 degrees 53 minutes 44 seconds W., NAD 27; UTM Zone 16T, 0328921 Easting and 4704914 Northing, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and very fine subangular blocky structure; friable; common fine fibrous roots; neutral; abrupt smooth boundary.

BE—7 to 11 inches; brown (10YR 4/3 and 7.5YR 4/4) loam; weak fine and medium subangular blocky structure; friable; common fine fibrous roots; neutral; clear smooth boundary.

Bt1—11 to 17 inches; brown (7.5YR 4/4) clay loam; moderate fine and medium subangular blocky structure; firm; few fine roots; few faint brown (7.5YR 4/3) clay films on faces of peds and in pores and clay bridges between sand grains; neutral; clear wavy boundary.

Bt2—17 to 28 inches; brown (7.5YR 4/4) sandy clay loam; moderate medium subangular blocky structure; firm; few fine fibrous roots; few faint brown (7.5YR 4/3) clay films on faces of peds and in pores and clay bridges between sand grains; neutral; clear wavy boundary.

Bt3—28 to 30 inches; dark yellowish brown (10YR 3/4) sandy loam; weak medium subangular blocky structure; friable; very few faint dark brown (10YR 3/3) organo-clay films on faces of some peds and clay bridges between sand grains; about 15 percent gravel; slightly alkaline; clear wavy boundary.

C—30 to 60 inches; brown (10YR 5/3) gravelly sandy loam; massive; friable; about 35 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Depth to till: Less than 15 inches

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 20 to 40 inches

Ap or A horizon:

Hue—10YR

Value—3 or 4

Chroma—2 or 3

Texture—loam

E or BE horizon (if it occurs):

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—loam or sandy loam

Bt horizon:

Hue—10YR or 7.5YR

Value—3 to 5

Chroma—3 or 4

Texture—clay loam, loam, sandy clay loam, or sandy loam
Content of rock fragments—less than 15 percent

C horizon:

Hue—10YR

Value—5 or 6

Chroma—3 to 6

Texture—sandy loam, fine sandy loam, or gravelly sandy loam

Content of rock fragments—5 to 35 percent

361B—Kidder loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and shoulders

Map Unit Composition

Kidder and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain more sand and less silt and clay in the lower part of the profile
- Soils that contain more clay and less sand or silt in the lower part of the profile
- Soils that have a darker colored surface layer
- Soils that have till beginning at a depth of more than 15 inches
- Soils that are moderately eroded
- Soils that contain carbonates beginning at a depth of less than 20 inches or more than 40 inches

Dissimilar components:

- The well drained Fox soils, which are moderately deep to sandy and gravelly deposits, on summits and backslopes
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Kidder Soil

Parent material: Till

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Potential for frost action: Moderate

Hazard of corrosion: Low for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

361C2—Kidder loam, 4 to 6 percent slopes, eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Shoulders and backslopes

Map Unit Composition

Kidder and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that are slightly eroded
- Soils that contain more clay and less sand or silt in the lower part of the profile
- Soils that contain more sand and less silt and clay in the lower part of the profile
- Soils that have till beginning at a depth of more than 15 inches
- Soils that contain carbonates beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have slopes of less than 4 percent or more than 6 percent

Dissimilar components:

- The well drained Fox soils, which are moderately deep to sandy and gravelly deposits, on shoulders and backslopes
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Kidder Soil

Parent material: Till

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent

Shrink-swell potential: Moderate

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: Low for steel and moderate for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

361D2—Kidder loam, 6 to 12 percent slopes, eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

Kidder and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that are slightly eroded
- Soils that contain more clay and less sand or silt in the lower part of the profile
- Soils that contain more sand and less silt and clay in the lower part of the profile
- Soils that have till beginning at a depth of more than 15 inches
- Soils that contain carbonates beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have slopes of less than 6 percent or more than 12 percent

Dissimilar components:

- The well drained Fox soils, which are moderately deep to sandy and gravelly deposits, on shoulders and backslopes
- The well drained, loamy Orthents, which are manmade; on backslopes
- Areas of urban land

Properties and Qualities of the Kidder Soil

Parent material: Till

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent

Shrink-swell potential: Moderate

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: Low for steel and concrete

Surface runoff class: Medium

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

361E2—Kidder loam, 12 to 20 percent slopes, eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

Kidder and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that are slightly eroded

- Soils that contain more clay and less sand or silt in the lower part of the profile
- Soils that contain more sand and less silt and clay in the lower part of the profile
- Soils that have till beginning at a depth of more than 15 inches
- Soils that contain carbonates beginning at a depth of less than 20 inches or more than 40 inches

- Soils that have slopes of less than 12 percent or more than 20 percent

Dissimilar components:

- The somewhat excessively drained Casco soils, which are shallow to sandy and gravelly deposits, on backslopes

Properties and Qualities of the Kidder Soil

Parent material: Till

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent

Shrink-swell potential: Moderate

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: Low for steel and moderate for concrete

Surface runoff class: Medium

Susceptibility to water erosion: High

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

830—Landfills

This map unit consists of garbage and other refuse and rubble from the demolition of buildings and pavement and is typically covered by a layer of compacted earth. Some landfills are active, and some have been abandoned.

Lawson Series

Drainage class: Somewhat poorly drained

Landform: Flood plains

Parent material: Alluvium

Slope range: 0 to 2 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Cumulic
Hapludolls

Typical Pedon

Lawson silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 490 feet; 1,460 feet north and 2,440 feet east of the southwest corner of section 9, T. 33 N., R. 7 E.; Grundy County, Illinois; USGS Morris topographic quadrangle; lat. 41 degrees 20 minutes 48 seconds N. and long. 88 degrees 25 minutes 56 seconds W., NAD 27; UTM Zone 16T, 0380192 Easting and 4578238 Northing, NAD 83:

- Ap—0 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; slightly alkaline; gradual smooth boundary.
- A1—14 to 26 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; slightly alkaline; gradual smooth boundary.
- A2—26 to 33 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; friable; slightly alkaline; gradual smooth boundary.
- Cg1—33 to 60 inches; dark grayish brown (10YR 4/2) silty clay loam; massive; friable; few fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; slightly alkaline; gradual smooth boundary.
- Cg2—60 to 80 inches; 80 percent gray (10YR 6/1) and 20 percent dark gray (10YR 4/1) stratified loam and silt loam; massive; friable; common fine and medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

Cg or C horizon:

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—1 to 3

Texture—silt loam, silty clay loam, or loam; stratified in some pedons

3451A—Lawson silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Lawson and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that are overlain by light-colored, recent deposits
- Soils that have a thinner surface soil
- Soils that have less silt and more clay in the upper half of the profile
- Soils that have a water table beginning at a depth of more than 2 feet

Dissimilar components:

- The poorly drained Sawmill soils on flood plains

Properties and Qualities of the Lawson Soil

Parent material: Alluvium

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)
Flooding: Frequent (November through June)
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland if protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Lorenzo Series

Drainage class: Well drained
Landform: Stream terraces and outwash plains
Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits
Slope range: 4 to 12 percent
Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Argiudolls

Typical Pedon

Lorenzo loam, 2 to 4 percent slopes; at an elevation of 510 feet; 378 feet south and 1,988 feet west of the northeast corner of section 35, T. 33 N., R. 5 E.; La Salle County, Illinois; USGS Seneca topographic quadrangle; lat. 41 degrees 17 minutes 44 seconds N. and long. 88 degrees 36 minutes 58 seconds W., NAD 27; UTM Zone 16T, 0364686 Easting and 4572840 Northing, NAD 83:

Ap—0 to 6 inches; very dark brown (10YR 2/2) loam, dark grayish brown (10YR 4/2) dry; moderate fine and medium granular structure; friable; common very fine roots; neutral; clear smooth boundary.
AB—6 to 9 inches; dark brown (7.5YR 3/2) loam, brown (7.5YR 5/2) dry; weak medium angular blocky structure; friable; neutral; clear smooth boundary.
Bt1—9 to 16 inches; brown (7.5YR 4/4) clay loam; weak medium and coarse angular blocky structure; firm; common distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; 3 percent gravel; slightly acid; abrupt smooth boundary.
2Bt2—16 to 18 inches; brown (7.5YR 4/4) gravelly loam; weak coarse subangular blocky structure; very friable; few distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; 20 percent gravel; slightly alkaline; abrupt smooth boundary.
3C—18 to 60 inches; yellowish brown (10YR 5/4) extremely gravelly sand; single grain; loose; 70 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 6 to 12 inches
Depth to sandy and gravelly glaciofluvial deposits: 12 to 24 inches

Depth to carbonates: 12 to 24 inches

Depth to the base of soil development: 12 to 24 inches

Ap or AB horizon:

Hue—7.5YR or 10YR

Value—2 to 3

Chroma—1 or 2

Texture—loam

Bt or 2Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—clay loam, loam, or sandy clay loam or the gravelly analogs of these textures

Content of rock fragments—2 to 35 percent

3C horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand, loamy sand, coarse sand, or loamy coarse sand

Content of rock fragments—20 to 85 percent

318C2—Lorenzo loam, 4 to 6 percent slopes, eroded

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Backslopes and shoulders

Map Unit Composition

Lorenzo and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a lighter colored surface layer
- Soils that are slightly eroded
- Soils that have sandy and gravelly deposits beginning at a depth of less than 12 inches or more than 24 inches
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that contain carbonates beginning at a depth of less than 12 inches or more than 24 inches
- Soils that have till in the lower part of the profile

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes
- Areas of urban land

Properties and Qualities of the Lorenzo Soil

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 12 to 24 inches to strongly contrasting textural stratification
Available water capacity: About 3.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Accelerated erosion: The surface layer has been thinned by erosion
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Farmland of statewide importance
Hydric soil status: Not hydric

318D2—Lorenzo loam, 6 to 12 percent slopes, eroded

Setting

Landform: Outwash plains, end moraines, and kames
Position on the landform: Shoulders and backslopes

Map Unit Composition

Lorenzo and similar soils: 92 percent
Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain carbonates beginning at depth of less than 12 inches or more than 24 inches
- Soils that are slightly eroded
- Soils that have a lighter colored surface layer
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that have sandy and gravelly deposits beginning at a depth of less than 12 inches or more than 24 inches
- Soils that have till in the lower part of the profile

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes
- Areas of urban land

Properties and Qualities of the Lorenzo Soil

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 12 to 24 inches to strongly contrasting textural stratification

Available water capacity: About 4.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Moderate

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

Markham Series

Drainage class: Moderately well drained

Permeability: Slow

Landform: Ground moraines and end moraines

Parent material: Thin mantle of loess or other silty material and the underlying till

Slope range: 2 to 12 percent

Taxonomic classification: Fine, illitic, mesic Mollic Oxyaquic Hapludalfs

Typical Pedon

Markham silt loam, 2 to 4 percent slopes; at an elevation of 775 feet; 2,125 feet south and 1,375 feet east of the northwest corner of section 16, T. 40 N., R. 9 E.; Du Page County, Illinois; USGS West Chicago topographic quadrangle; lat. 41 degrees 09 minutes 57 seconds N. and long. 88 degrees 13 minutes 04 seconds W., NAD 27; UTM Zone 16T, 0399060 Easting and 4645222 Northing, NAD 83:

- Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine roots; moderately acid; clear smooth boundary.
- A—5 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure parting to weak fine granular; friable; common very fine roots; moderately acid; abrupt smooth boundary.
- BA—8 to 12 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear wavy boundary.
- 2Bt1—12 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium prismatic structure parting to moderate fine subangular blocky; friable; common very fine and fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds; common fine strong brown (7.5YR 4/6) very weakly cemented iron oxide concretions throughout; 2 percent gravel; slightly acid; clear wavy boundary.
- 2Bt2—21 to 26 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; friable; common very fine and fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; common fine yellowish red (5YR 4/6) very weakly cemented iron oxide concretions throughout; 7 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.
- 2BC—26 to 32 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium and coarse angular blocky structure; firm; common very fine roots; common fine yellowish red (5YR 5/6) very weakly cemented iron oxide concretions throughout; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; 6 percent gravel; strongly effervescent; slightly alkaline; gradual wavy boundary.
- 2Cd1—32 to 39 inches; yellowish brown (10YR 5/4) silty clay loam; massive; very firm; few very fine roots; common fine yellowish red (5YR 5/6) very weakly cemented iron oxide concretions throughout; 6 percent gravel; violently effervescent; moderately alkaline; gradual wavy boundary.

2Cd2—39 to 60 inches; brown (10YR 5/3) silty clay loam; massive; very firm; common fine yellowish red (5YR 5/6) very weakly cemented iron oxide concretions throughout; 7 percent gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches

Depth to carbonates: 18 to 42 inches

Depth to the base of soil development: 20 to 55 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

BA, Bt, 2Bt, or 2BC horizon:

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 8

Texture—silty clay loam or silty clay

Content of rock fragments—less than 12 percent

2Cd horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or clay loam

Content of rock fragments—less than 12 percent

531B—Markham silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and backslopes

Map Unit Composition

Markham and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a thicker surface layer
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that contain more sand or silt and less clay in the upper half of the profile
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have a lighter colored surface layer

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Markham Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 55 inches to densic material
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

531C2—Markham silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Markham and similar soils: 96 percent
Dissimilar components: 4 percent

Components of Minor Extent

Similar soils:

- Soils that contain more sand or silt and less clay in the upper half of the profile
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that are slightly eroded
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Markham Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 55 inches to densic material
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet (February through April)

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

531D2—Markham silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

Markham and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain more sand or silt and less clay in the upper half of the profile
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that are slightly eroded
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet

Dissimilar components:

- The nearly level, somewhat poorly drained Beecher soils on summits and footslopes
- The moderately well drained, clayey Orthents, which are manmade; on backslopes
- Areas of urban land

Properties and Qualities of the Markham Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 55 inches to densic material

Available water capacity: About 7.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

854B—Markham-Ashkum-Beecher complex, 1 to 6 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Markham—summits and backslopes; Ashkum—toeslopes; Beecher—footslopes and backslopes

Map Unit Composition

Markham and similar soils: 40 percent

Ashkum and similar soils: 30 percent

Beecher and similar soils: 25 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a thicker surface layer
- Soils that contain more sand or silt and less clay in the upper half of the profile
- Soils that have a lighter colored surface layer

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes

Properties and Qualities of the Markham Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 55 inches to densic material

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Properties and Qualities of the Ashkum Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.8 inches to a depth of 60 inches

Soil Survey of Cook County, Illinois

Content of organic matter in the surface layer: 3.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Properties and Qualities of the Beecher Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 24 to 45 inches to densic material

Available water capacity: About 6.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Markham—3e; Ashkum—2w; Beecher—2e

Prime farmland category: Not prime farmland

Hydric soil status: Markham and Beecher—not hydric; Ashkum—hydric

Hydric criteria code: 2B3

Martinton Series

Drainage class: Somewhat poorly drained

Landform: Lake plains

Parent material: Lacustrine deposits

Slope range: 0 to 4 percent

Taxonomic classification: Fine, illitic, mesic Aquic Argiudolls

Typical Pedon

Martinton silt loam, 0 to 2 percent slopes; at an elevation of 650 feet; 480 feet north and 160 feet west of the southeast corner of section 5, T. 27 N., R. 7 E.; Livingston County, Illinois; USGS Forrest North topographic quadrangle; lat. 40 degrees 50 minutes 01 second N. and long. 88 degrees 25 minutes 57 seconds W., NAD 27; UTM Zone 16T, 0379215 Easting and 4521261 Northing, NAD 83:

Ap—0 to 7 inches; very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

Soil Survey of Cook County, Illinois

A—7 to 12 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

BA—12 to 19 inches; brown (10YR 4/3) silty clay loam; moderate fine angular blocky structure; friable; few very fine roots; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Btg1—19 to 27 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine prismatic structure parting to moderate fine angular blocky; firm; few very fine roots; common distinct very dark grayish brown (2.5Y 3/2) organo-clay films on faces of peds; few fine black (7.5YR 2.5/1) iron-manganese concretions throughout; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Btg2—27 to 39 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate fine angular blocky; firm; few very fine roots; common faint very dark grayish brown (2.5Y 3/2) organo-clay films on faces of peds; few black (7.5YR 2.5/1) iron-manganese concretions throughout; many medium distinct light olive brown (2.5Y 5/4) and few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

BCtg—39 to 46 inches; grayish brown (2.5Y 5/2) silt loam; weak medium prismatic structure; friable; few faint dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) iron-manganese concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; very slightly effervescent; slightly alkaline; clear smooth boundary.

Cg—46 to 60 inches; 60 percent grayish brown (2.5Y 5/2) and 40 percent yellowish brown (10YR 5/6) stratified silty clay loam and sandy loam; massive; friable; few fine black (7.5YR 2.5/1) iron-manganese concretions throughout; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to carbonates: 24 to 50 inches

Depth to the base of soil development: 30 to 52 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

BA, Bt, Btg, or BCtg horizon:

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 or 3

Texture—silty clay loam or silty clay

Cg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silt loam, silty clay loam, silty clay, clay loam, loam, or sandy loam; typically stratified

189A—Martinton silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Summits and footslopes

Map Unit Composition

Martinton and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils with slopes of more than 2 percent
- Soils that have a lighter colored or thinner surface layer
- Soils that have till in the lower part of the profile
- Soils that contain less clay and more silt in the subsoil

Dissimilar components:

- The poorly drained Milford soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Martinton Soil

Parent material: Lacustrine deposits

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 5.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

849A—Milford-Martinton complex, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Milford—toeslopes; Martinton—summits and footslopes

Map Unit Composition

Milford and similar soils: 54 percent

Martinton and similar soils: 40 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of more than 2 percent
- Soils that have till in the lower part of the profile
- Soils that contain less clay and more silt or sand in the subsoil
- Soils that have a thicker or thinner surface soil

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits
- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Milford Soil

Parent material: Lacustrine deposits

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Properties and Qualities of the Martinton Soil

Parent material: Lacustrine deposits

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 5.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Milford—2w; Martinton—1

Prime farmland category: Not prime farmland

Hydric soil status: Milford—hydric; Martinton—not hydric

Hydric criteria code: 2B3

Milford Series

Drainage class: Poorly drained

Landform: Lake plains

Parent material: Lacustrine deposits

Slope range: 0 to 2 percent

Taxonomic classification: Fine, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Milford silty clay loam, 0 to 2 percent slopes; at an elevation of 643 feet; 1,450 feet north and 70 feet east of the southwest corner of section 4, T. 26 N., R. 14 W.; Iroquois County, Illinois; USGS Gilman topographic quadrangle; lat. 40 degrees 45 minutes 25 seconds N. and long. 87 degrees 57 minutes 28 seconds W., NAD 27; UTM Zone 16T, 0419150 Easting and 4512226 Northing, NAD 83:

- Ap—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine and fine subangular and angular blocky structure; firm; many fine roots; slightly acid; abrupt smooth boundary.
- A—9 to 18 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate and strong very fine subangular blocky structure; firm; common fine roots; slightly acid; clear smooth boundary.
- BA—18 to 22 inches; very dark gray (10YR 3/1) silty clay, gray (10YR 5/1) dry; moderate fine and medium angular blocky structure; very firm; common fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common medium prominent olive brown (2.5Y 4/4) masses of oxidized iron-manganese in the matrix; common medium faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bg1—22 to 31 inches; gray (5Y 5/1) silty clay loam; moderate medium and coarse prismatic structure parting to moderate medium and coarse angular and subangular blocky; very firm; common fine roots; many distinct dark gray (5Y 4/1) pressure faces on peds; few fine black (N 2.5/) iron-manganese concretions throughout; many medium prominent dark yellowish brown (10YR 4/4) masses of oxidized iron-manganese in the matrix; many medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bg2—31 to 42 inches; gray (5Y 5/1) clay loam; moderate coarse prismatic structure parting to moderate medium and coarse angular blocky; very firm; few fine roots; common medium prominent dark yellowish brown (10YR 4/4) masses of oxidized iron-manganese and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.
- Bg3—42 to 50 inches; dark gray (5Y 4/1) silty clay loam stratified with thin bands of clay loam; moderate coarse prismatic structure parting to moderate coarse subangular and angular blocky; firm; few fine roots; many medium prominent dark yellowish brown (10YR 4/4) masses of oxidized iron-manganese and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear wavy boundary.
- Cg—50 to 60 inches; gray (5Y 5/1) clay loam stratified with bands of fine sandy loam and silty clay loam; massive; firm; few fine roots; many coarse prominent yellowish brown (10YR 5/4 and 5/8) masses of oxidized iron in the matrix; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 12 to 24 inches

Depth to carbonates: More than 40 inches

Depth to the base of soil development: 36 to 60 inches

Ap, A, or BA horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—silty clay loam or silty clay

Bg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam, silty clay, or clay loam; stratified with these textures in some pedons

Cg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—stratified sandy loam to silty clay loam

69A—Milford silty clay loam, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Toeslopes

Map Unit Composition

Milford and similar soils: 93 percent

Dissimilar components: 7 percent

Components of Minor Extent

Similar soils:

- Soils that have till in the lower part of the profile
- Soils that contain less clay and more silt or sand in the subsoil
- Soils that have a thicker or thinner surface soil
- Soils that are overlain by light-colored, recent deposits

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land
- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Milford Soil

Parent material: Lacustrine deposits

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

849A—Milford-Martinton complex, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Milford—toeslopes; Martinton—summits and footslopes

Map Unit Composition

Milford and similar soils: 54 percent

Martinton and similar soils: 40 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of more than 2 percent
- Soils that have till in the lower part of the profile
- Soils that contain less clay and more silt or sand in the subsoil
- Soils that have a thicker or thinner surface soil

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits
- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Milford Soil

Parent material: Lacustrine deposits

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Properties and Qualities of the Martinton Soil

Parent material: Lacustrine deposits

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 5.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Milford—2w; Martinton—1

Prime farmland category: Not prime farmland

Hydric soil status: Milford—hydric; Martinton—not hydric

Hydric criteria code: 2B3

M-W—Miscellaneous water

This map unit consists of manmade water bodies that are used for industrial, sanitary, or mining applications and that contain water most of the year. The water in these areas is typically not potable and is unsuitable for either fishing or swimming. Included in mapping are established earth berms around the lagoon.

Mokena Series

Drainage class: Somewhat poorly drained

Landform: Ground moraines and lake plains

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till or lacustrine deposits

Slope range: 0 to 2 percent

Taxonomic classification: Fine-loamy, mixed, active, mesic Aquic Argiudolls

Typical Pedon

Mokena silt loam, 0 to 2 percent slopes; at an elevation of 636 feet; 1,980 feet south and 194 feet east of the northwest corner of section 7, T. 29 N., R. 12 W.; Kankakee County, Illinois; USGS Kankakee topographic quadrangle; lat. 41 degrees 00 minutes 53 seconds N. and long. 87 degrees 46 minutes 15 seconds W., NAD 27; UTM Zone 16T, 0435183 Easting and 4540680 Northing, NAD 83:

Ap—0 to 5 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; clear smooth boundary.

A—5 to 12 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to weak fine and medium granular; friable; common very fine and fine roots; neutral; gradual wavy boundary.

AB—12 to 15 inches; 70 percent black (10YR 2/1) and 30 percent very dark grayish brown (10YR 3/2) loam, dark gray (10YR 4/1) dry; weak fine and medium subangular blocky structure parting to weak fine and medium granular; friable; few very fine and fine roots; neutral; gradual wavy boundary.

Bt1—15 to 20 inches; olive brown (2.5Y 4/3) loam; moderate medium subangular blocky structure; firm; few very fine and fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common prominent black (10YR 2/1)

- organic coatings in root channels; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.
- Bt2—20 to 25 inches; light olive brown (2.5Y 5/3) loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common prominent black (10YR 2/1) organic coatings in root channels; common medium black (N 2.5/) iron-manganese nodules throughout; common fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.
- Bt3—25 to 32 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium prismatic structure; firm; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium black (N 2.5/) iron-manganese nodules throughout; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; gradual smooth boundary.
- Bt4—32 to 38 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent dark grayish brown (2.5Y 4/2) clay loam; weak medium and coarse angular blocky structure; firm; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium black (N 2.5/) iron-manganese nodules throughout; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 1 percent gravel; slightly alkaline; clear smooth boundary.
- 2Btg—38 to 42 inches; gray (5Y 5/1) silty clay; weak fine and medium subangular blocky structure; very firm; few very fine and fine roots; few prominent dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium black (N 2.5/) iron-manganese nodules throughout; many medium prominent yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; 1 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.
- 2Cd—42 to 60 inches; 80 percent gray (5Y 5/1) and 20 percent yellowish brown (10YR 5/4) silty clay; massive; very firm; few fine black (N 2.5/) iron-manganese nodules throughout; common medium light gray (2.5Y 7/1) calcium carbonate concretions throughout; 2 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to till or lacustrine deposits: 30 to 50 inches

Depth to carbonates: 30 to 50 inches

Depth to the base of soil development: 30 to 60 inches

Ap, A, or AB horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or loam

Bt horizon:

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 to 4

Texture—loam, clay loam, or sandy clay loam

2Bt or 2Btg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay or clay
Content of rock fragments—less than 7 percent

2Cd horizon:

Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay or clay
Content of rock fragments—less than 10 percent

295A—Mokena silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and footslopes

Map Unit Composition

Mokena and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface soil
- Soils that contain more sand in the surface layer
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that contain stratified loamy outwash in the lower part of the profile
- Soils that have till or lacustrine deposits beginning at a depth of less than 30 inches or more than 50 inches
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Bryce soils on toeslopes
- Areas of urban land

Properties and Qualities of the Mokena Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till or lacustrine deposits

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 30 to 60 inches to densic material

Available water capacity: About 6.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Mundelein Series

Drainage class: Somewhat poorly drained

Permeability: Moderate

Landform: Outwash plains, stream terraces, and lake plains

Parent material: Loess or other silty material and the underlying outwash

Slope range: 0 to 4 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Mundelein silt loam, 0 to 2 percent slopes; at an elevation of 778 feet; 2,158 feet north and 2,425 feet west of the southeast corner of section 14, T. 45 N., R. 10 E.; Lake County, Illinois; USGS Antioch topographic quadrangle; lat. 42 degrees 22 minutes 38 seconds N. and long. 88 degrees 01 minute 59 seconds W., NAD 27; UTM Zone 16T, 0414949 Easting and 4692180 Northing, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure parting to weak fine granular; friable; common very fine roots; slightly acid; clear smooth boundary.

A—7 to 13 inches; black (N 2.5/) silt loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to weak fine granular; friable; common very fine roots; neutral; clear smooth boundary.

AB—13 to 17 inches; very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; weak very fine and fine subangular blocky structure parting to weak fine granular; friable; few very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; neutral; clear smooth boundary.

Bt1—17 to 21 inches; brown (10YR 4/3) silty clay loam; moderate very fine and fine subangular blocky structure; friable; few distinct black (10YR 2/1) organic coatings on faces of peds; few distinct very dark grayish brown (10YR 3/2) organo-clay films and dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; clear smooth boundary.

Bt2—21 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) and brown (10YR 4/3) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; neutral; clear smooth boundary.

Bt3—26 to 31 inches; light olive brown (2.5Y 5/4) silt loam; weak medium subangular blocky structure; friable; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 4 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2BC—31 to 42 inches; 65 percent yellowish brown (10YR 5/4 and 5/6) and 35 percent light brownish gray (2.5Y 6/2) stratified silt loam and loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; 8 percent gravel; strongly effervescent; moderately alkaline; gradual smooth boundary.

2C—42 to 60 inches; 35 percent light brown (7.5YR 6/3), 35 percent yellowish brown (10YR 5/6), and 30 percent light brownish gray (2.5Y 6/2) stratified loam and silt loam; massive; friable; common fine black (10YR 2/1) very weakly cemented

iron-manganese concretions throughout; 6 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or other silty material: 20 to 40 inches

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 24 to 50 inches

Ap, A, or AB horizon:

Hue—10YR or N

Value—2 to 3

Chroma—0 to 2

Texture—silt loam

Bt horizon:

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 4

Texture—silty clay loam or silt loam

2Bt or 2BC horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silt loam, loam, clay loam, sandy clay loam, or sandy loam; commonly stratified

Content of rock fragments—less than 10 percent

2C horizon:

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—1 to 8

Texture—stratified silt loam to fine sand

Content of rock fragments—less than 15 percent

442A—Mundelein silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, stream terraces, and lake plains

Position on the landform: Summits and footslopes

Map Unit Composition

Mundelein and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that contain carbonates beginning at a depth of more than 40 inches
- Soils that contain lacustrine deposits or till in the lower part of the profile
- Soils that have sandy and gravelly deposits in the lower part of the profile
- Soils that have a thinner surface layer

Dissimilar components:

- The poorly drained Drummer and Pella soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Mundelein Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

848B—Drummer-Barrington-Mundelein complex, 1 to 6 percent slopes

Setting

Landform: Outwash plains

Position on the landform: Drummer—toeslopes; Barrington—summits and backslopes; Mundelein—summits and footslopes

Map Unit Composition

Drummer and similar soils: 40 percent

Barrington and similar soils: 30 percent

Mundelein and similar soils: 25 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 1 percent or more than 6 percent
- Soils that have till in the lower part of the profile
- Soils that have sandy and gravelly deposits in the lower part of the profile
- Soils that have a thinner surface layer

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits and backslopes

Properties and Qualities of the Drummer Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 7.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)
Ponding: At the surface to 0.5 foot above the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Barrington Soil

Parent material: Loess or other silty material and the underlying outwash
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Mundelein Soil

Parent material: Loess or other silty material and the underlying outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Drummer—2w; Barrington—3e; Mundelein—1
Prime farmland category: Not prime farmland
Hydric soil status: Drummer—hydric; Barrington and Mundelein—not hydric
Hydric criteria code: 2B3

Muskego Series

Drainage class: Very poorly drained

Permeability: Moderate in the upper part of the profile and slow in the lower part

Landform: Ground moraines, outwash plains, and depressions

Parent material: Herbaceous organic material over coprogenous material

Slope range: 0 to 2 percent

Taxonomic classification: Coprogenous, euic, mesic Limnic Haplosaprists

Typical Pedon

Muskego muck in an area of Muskego and Houghton mucks, 0 to 2 percent slopes; at an elevation of 745 feet; 1,895 feet north and 230 feet west of the southeast corner of section 15, T. 39 N., R. 10 E.; Du Page County, Illinois; USGS Wheaton topographic quadrangle; lat. 41 degrees 51 minutes 52 seconds N. and long. 88 degrees 04 minutes 24 seconds W., NAD 27; UTM Zone 16T, 0410911 Easting and 4635280 Northing, NAD 83:

- Oa1—0 to 5 inches; black (N 2.5/) (broken face and rubbed) muck (sapric material), dark gray (N 4/) dry; less than 5 percent fiber rubbed; weak fine granular structure; friable; many very fine roots; slightly acid; clear smooth boundary.
- Oa2—5 to 11 inches; black (N 2.5/) (broken face and rubbed) muck (sapric material); less than 5 percent fiber rubbed; moderate fine subangular blocky structure; friable; common very fine and fine roots; neutral; clear smooth boundary.
- Oa3—11 to 22 inches; black (N 2.5/) (broken face and rubbed) muck (sapric material); less than 5 percent fiber rubbed; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; slightly acid; clear wavy boundary.
- Oa4—22 to 36 inches; 60 percent black (N 2.5/) and 40 percent dark brown (7.5YR 3/3) (broken face and rubbed) muck (sapric material); 10 percent fiber rubbed; weak thick platy structure; friable; common very fine roots; slightly acid; clear wavy boundary.
- Lco1—36 to 47 inches; 90 percent very dark gray (5Y 3/1) and 10 percent dark brown (7.5YR 3/4) coprogenous earth; 5 percent fiber rubbed; very friable; massive; common very fine roots; neutral; gradual wavy boundary.
- Lco2—47 to 60 inches; very dark gray (5Y 3/1) coprogenous earth; 5 percent fiber rubbed; very friable; massive; common very fine roots; 4 percent snail shells; neutral.

Range in Characteristics

Depth to coprogenous deposits: 16 to 51 inches

Surface tier:

Hue—10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 or 1

Subsurface tier:

Hue—7.5YR, 10YR, or N

Value—2 to 3

Chroma—0 to 3

Lco horizon:

Hue—10YR, 2.5Y, or 5Y

Value—2 to 4

Chroma—1 to 3

903A—Muskego and Houghton mucks, 0 to 2 percent slopes

Setting

Landform: Depressions, ground moraines, and outwash plains

Position on the landform: Toeslopes

Map Unit Composition

Muskego and similar soils: 60 percent

Houghton and similar soils: 35 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a surface layer with a lower content of organic matter
- Soils that are lighter colored in the lower half of the profile
- Soils that contain carbonates near the surface
- Soils in which the organic deposits are less than 51 inches thick

Dissimilar components:

- The poorly drained Drummer soils, which formed in mineral deposits, on toeslopes

Properties and Qualities of the Muskego Soil

Parent material: Herbaceous organic material over coprogenic material

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 19.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 60.0 to 90.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
(November through June)

Ponding: At the surface to 1 foot above the surface (November through June)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Properties and Qualities of the Houghton Soil

Parent material: Herbaceous organic material

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow to moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 23.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 70.0 to 99.0 percent

Shrink-swell potential: Not rated

Apparent seasonal high water table: At the surface to 1 foot below the surface
(November through June)

Ponding: At the surface to 1.0 above the surface (November through June)

Potential for frost action: High

Hazard of corrosion: High for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 3w

Prime farmland category: Farmland of statewide importance

Hydric soil status: Hydric

Hydric criteria code: 1

1903A—Muskego and Houghton mucks, undrained, 0 to 2 percent slopes

Setting

Landform: Depressions, ground moraines, and outwash plains

Position on the landform: Toeslopes

Map Unit Composition

Muskego and similar soils: 50 percent

Houghton and similar soils: 45 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a surface layer with a lower content of organic matter
- Soils that have organic deposits less than 51 inches thick
- Soils that contain carbonates near the surface
- Soils that are lighter colored in the lower half of the profile

Dissimilar components:

- The poorly drained Drummer soils, which formed in mineral deposits, on toeslopes

Properties and Qualities of the Muskego Soil

Parent material: Herbaceous organic material over coprogenic material

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 17.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 60.0 to 90.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through December)

Ponding: At the surface to 1 foot above the surface (January through December)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: High

Properties and Qualities of the Houghton Soil

Parent material: Herbaceous organic material

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow to moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 23.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 70.0 to 99.0 percent

Shrink-swell potential: Not rated

Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through December)

Ponding: At the surface to 1 foot above the surface (January through December)

Potential for frost action: High

Hazard of corrosion: High for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 5w

Prime farmland category: Not prime farmland

Hydric soil status: Hydric

Hydric criteria codes: 1, 3

4904A—Muskego and Peotone soils, ponded, 0 to 2 percent slopes

Setting

Landform: Ground moraines and depressions

Position on the landform: Toeslopes

Map Unit Composition

Muskego and similar soils: 53 percent

Peotone and similar soils: 42 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have coprogenous material beginning at a depth of more than 51 inches
- Soils that are calcareous near the surface
- Soils that are overlain by light-colored, recent deposits
- Soils that contain less clay and more sand or silt in the subsurface layer and subsoil
- Soils that are lighter colored in the upper half of the subsoil

Dissimilar components:

- Bodies of water

Properties and Qualities of the Muskego Soil

Parent material: Herbaceous organic material over coprogenic material

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 17.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 60.0 to 90.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through December)

Ponding: At the surface to 1 foot above the surface (January through December)

Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Properties and Qualities of the Peotone Soil

Parent material: Colluvium
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 5.0 to 7.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 0.5 foot below the surface (January through December)
Ponding: At the surface to 1 foot above the surface (January through December)
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 7w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric
Hydric criteria codes: 2B3, 3

Nappanee Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines, end moraines, and lake plains
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 0 to 6 percent
Taxonomic classification: Fine, illitic, mesic Aeric Epiaqualfs

Typical Pedon

Nappanee silt loam, 2 to 4 percent slopes; at an elevation of 665 feet; 1,220 feet south and 500 feet east of the northwest corner of section 10, T. 44 N., R. 11 E.; Lake County, Illinois; USGS Libertyville topographic quadrangle; lat. 42 degrees 18 minutes 35 seconds N. and long. 87 degrees 56 minutes 33 seconds W., NAD 27; UTM Zone 16T, 0422327 Easting and 4684589 Northing, NAD 83:

- A—0 to 4 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 6/1) dry; weak very fine and fine granular structure; friable; many very fine and fine roots; neutral; abrupt smooth boundary.
- E—4 to 9 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak thick platy structure; friable; many very fine and fine roots; neutral; clear smooth boundary.
- Btg—9 to 19 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine and medium subangular blocky structure; firm; common very fine roots; common prominent very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine and medium prominent dark yellowish brown (10YR 4/6)

weakly cemented iron-manganese oxide concretions throughout; common fine black (10YR 2/1) strongly cemented manganese nodules throughout; 1 percent gravel; slightly alkaline; clear smooth boundary.

Bt1—19 to 23 inches; brown (10YR 4/3) silty clay; moderate medium subangular blocky structure; firm; common very fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine distinct gray (10YR 5/1) iron depletions in the matrix; 3 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

Bt2—23 to 28 inches; brown (10YR 5/3) silty clay; weak medium prismatic structure parting to moderate medium subangular blocky; very firm; common very fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; 3 percent gravel; slightly effervescent; moderately alkaline; gradual smooth boundary.

Btk1—28 to 36 inches; brown (10YR 5/3) silty clay; weak medium prismatic structure parting to weak medium subangular blocky; very firm; common very fine roots; common distinct dark grayish brown (2.5Y 4/2) and grayish brown (2.5Y 5/2) clay films on faces of peds and in pores; common distinct dark brown (7.5YR 3/2) organo-clay films on surfaces along pores; common medium and coarse prominent strong brown (7.5YR 5/6) and common medium and coarse faint yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; many fine and medium pale yellow (2.5Y 8/2) carbonate concretions throughout; 2 percent gravel; strongly effervescent; moderately alkaline; gradual smooth boundary.

Btk2—36 to 46 inches; yellowish brown (10YR 5/4) silty clay; weak medium prismatic structure parting to weak coarse subangular blocky; very firm; common very fine roots; common prominent pale yellow (2.5Y 8/2) carbonate coatings on horizontal faces of peds; many prominent dark gray (2.5Y 4/1) and gray (2.5Y 5/1) clay films on faces of peds; common prominent dark brown (7.5YR 3/2) organo-clay films on surfaces along pores; common fine and medium strong brown (7.5YR 5/8) weakly cemented iron-manganese oxide concretions throughout; few fine black (7.5YR 2.5/1) strongly cemented iron-manganese concretions throughout; common fine and medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; common fine and medium pale yellow (2.5Y 8/2) carbonate concretions throughout; 2 percent gravel; strongly effervescent; moderately alkaline; gradual wavy boundary.

Cd—46 to 60 inches; yellowish brown (10YR 5/4) silty clay loam; massive; very firm; common medium distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine black (7.5YR 2.5/1) strongly cemented iron-manganese concretions throughout; common medium pale yellow (2.5Y 8/2) carbonate concretions throughout; 2 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 20 inches

Depth to carbonates: 18 to 40 inches

Depth to densic material: 30 to 60 inches

Depth to the base of soil development: 24 to 60 inches

A or Ap horizon:

Hue—10YR

Value—3 to 5

Chroma—1 to 3
Texture—silt loam or silty clay loam

E horizon:

Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam

Bt, Btg, or Btk horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—silty clay or clay
Content of rock fragments—1 to 10 percent

Cd horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay, clay, or silty clay loam
Content of rock fragments—2 to 10 percent

228A—Nappanee silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines, end moraines, and lake plains

Position on the landform: Footslopes and summits

Map Unit Composition

Nappanee and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a darker surface layer
- Soils that contain less clay and more silt in the upper half of the profile
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- The poorly drained Bryce and similar soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Nappanee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 30 to 60 inches to densic material

Available water capacity: About 5.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w

Prime farmland category: Prime farmland where drained

Hydric soil status: Not hydric

228B—Nappanee silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines, end moraines, and lake plains

Position on the landform: Footslopes and backslopes

Map Unit Composition

Nappanee and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a darker surface layer
- Soils that contain less clay and more silt in the upper half of the profile
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that are moderately eroded
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- The poorly drained Bryce and similar soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Nappanee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 30 to 60 inches to densic material

Available water capacity: About 5.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

228C2—Nappanee silty clay loam, 4 to 6 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines

Position on the landform: Shoulders and backslopes

Map Unit Composition

Nappanee and similar soils: 92 percent

Dissimilar components 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a darker surface layer
- Soils that contain less clay and more silt in the upper half of the profile
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- The poorly drained Bryce and similar soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Nappanee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 24 to 60 inches to densic material

Available water capacity: About 4.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.5 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very high

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

Oakville Series

Drainage class: Excessively drained

Landform: Dunes on outwash plains, dunes on lake plains, beach ridges on outwash plains, and beach ridges on lake plains

Parent material: Eolian deposits

Slope range: 1 to 12 percent

Taxonomic classification: Mixed, mesic Typic Udipsamments

Typical Pedon

Oakville fine sand, 1 to 6 percent slopes; at an elevation of 660 feet; 1,980 feet south and 67 feet east of the northwest corner of section 24, T. 30 N., R. 12 W.; Kankakee County, Illinois; USGS St. Anne topographic quadrangle; lat. 41 degrees 04 minutes 28 seconds N. and long. 87 degrees 40 minutes 31 seconds W., NAD 27; UTM Zone 16T, 0443262 Easting and 4547247 Northing, NAD 83:

A—0 to 3 inches; very dark grayish brown (10YR 3/2) fine sand, grayish brown (10YR 5/2) dry; weak fine granular structure; very friable; common fine and very fine roots; very strongly acid; clear smooth boundary.

BE—3 to 7 inches; brown (10YR 4/3) fine sand; weak fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.

Bw—7 to 40 inches; yellowish brown (10YR 5/6) fine sand; weak medium and coarse subangular blocky structure; very friable; few fine and very fine roots; very strongly acid; clear smooth boundary.

C—40 to 65 inches; 60 percent light yellowish brown (10YR 6/4) and 40 percent very pale brown (10YR 7/4) fine sand; single grain; loose; strongly acid.

Range in Characteristics

Depth to the base of soil development: 18 to 65 inches

A or Ap horizon:

Hue—10YR

Value—2 to 4

Chroma—1 to 4

Texture—fine sand

Bw or BE horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 8

Texture—fine sand or loamy fine sand

C horizon:

Hue—10YR

Value—4 to 7

Chroma—3 to 6

Texture—fine sand, loamy fine sand, sand, or loamy sand

741B—Oakville fine sand, 1 to 6 percent slopes

Setting

Landform: Dunes on outwash plains, dunes on lake plains, beach ridges on outwash plains, and beach ridges on lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Oakville and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils with a thicker, darker surface layer
- Soils that contain more clay and less sand in the upper part of the profile
- Soils that have slopes of less than 1 percent or more than 6 percent
- Soils that contain more rock fragments throughout the profile
- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet

Dissimilar components:

- Areas of urban land
- The somewhat poorly drained Watseka soils on summits and footslopes

Properties and Qualities of the Oakville Soil

Parent material: Eolian deposits

Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Rapid

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 4.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Low

Potential for frost action: Low

Hazard of corrosion: Low for steel and high for concrete

Surface runoff class: Very low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: 4s

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

741D—Oakville fine sand, 6 to 12 percent slopes

Setting

Landform: Dunes on outwash plains, dunes on lake plains, beach ridges on outwash plains, and beach ridges on lake plains (fig. 9)

Position on the landform: Backslopes

Map Unit Composition

Oakville and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils with a thicker, darker surface layer
- Soils that contain more clay and less sand in the upper part of the profile
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that contain more rock fragments throughout the profile



Figure 9.—An area of Oakville fine sand, 6 to 12 percent slopes, on an old dune ridge in Cook County.

Dissimilar components:

- Areas of urban land
- The somewhat poorly drained Watseka soils on summits and footslopes

Properties and Qualities of the Oakville Soil

Parent material: Eolian deposits

Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Rapid

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 4.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Low

Potential for frost action: Low

Hazard of corrosion: Low for steel and high for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

Orthents, clayey

These soils are in areas of disturbed soil material (fig. 10). They are fine, mixed, active, nonacid, mesic Aquic Udorthents. The surface layer is very dark gray, firm



Figure 10.—A profile of Orthents, clayey, nearly level (in Burnham Park, Chicago) consisting of disturbed and human-transported materials.

silty clay about 6 inches thick. The upper part of the underlying material is brown and yellowish brown, firm silty clay. The lower part to a depth of 60 inches or more is mottled olive brown, light olive brown, and grayish brown firm silty clay and silty clay loam.

534A—Urban land-Orthents, clayey, complex, nearly level

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits

Map Unit Composition

Urban land: 70 percent
Orthents and similar soils: 23 percent
Dissimilar components: 7 percent

Components of Minor Extent

Similar soils:

- Soils that have more sand or silt and less clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates at or near the surface
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The poorly drained, clayey Aquents, which are manmade; on toeslopes
- The well drained, loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 4 to 12 inches to densic material

Available water capacity: About 4.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Urban land—8; Orthents—4s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

534B—Urban land-Orthents, clayey, complex, gently sloping

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Urban land: 70 percent
Orthents and similar soils: 23 percent
Dissimilar components: 7 percent

Components of Minor Extent

Similar soils:

- Soils that have more sand or silt and less clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates at or near the surface
- Soils that have slopes of less than 2 percent more than 6 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The poorly drained Aquents, clayey soils, which are manmade; on toeslopes
- The well drained loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits and backslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 4 to 10 inches to densic material

Available water capacity: About 4.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very high

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Urban land—8; Orthents—4s

Prime farmland category: None assigned

Hydric soil status: Not hydric

805A—Orthents, clayey, nearly level

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits

Map Unit Composition

Orthents and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have more sand or silt and less clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates at or near the surface
- Soils that have slopes of more than 1 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- Areas of urban land
- The poorly drained, clayey Aquents, which are manmade; on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 4 to 12 inches to densic material

Available water capacity: About 4.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.0 to 3.5 feet (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 4s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

805B—Orthents, clayey, undulating

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Orthents and similar soils: 91 percent

Dissimilar components: 9 percent

Components of Minor Extent

Similar soils:

- Soils that contain more sand or silt and less clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet

- Soils that have carbonates at or near the surface
- Soils that have slopes of less than 1 percent or more than 6 percent

Dissimilar components:

- The poorly drained Ashkum and Bryce soils on toeslopes
- Areas of urban land
- The poorly drained, clayey Aquents, which are manmade; on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 4 to 10 inches to densic material

Available water capacity: About 4.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very high

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 4s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

805D—Orthents, clayey, rolling

Setting

Landform: Ground moraines and lake plains

Position on the landform: Backslopes

Map Unit Composition

Orthents and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have more sand or silt and less clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates at or near the surface
- Soils that have slopes of less than 6 percent or more than 12 percent

Dissimilar components:

- Areas of urban land
- The poorly drained, clayey Aquents, which are manmade; on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 3 to 9 inches to densic material
Available water capacity: About 4.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

2232A—Orthents, clayey-Urban land-Ashkum complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Orthents—summits; Ashkum—toeslopes

Map Unit Composition

Orthents and similar soils: 45 percent
Urban land: 40 percent
Ashkum and similar soils: 15 percent

Components of Minor Extent

Similar soils:

- Soils that have more sand or silt and less clay in the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates near the surface
- Soils that have slopes of more than 2 percent

Properties and Qualities of the Orthents

Parent material: Earthy fill
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 4 to 12 inches to densic material
Available water capacity: About 6.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 3.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Ashkum Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Orthents—4s; Urban land—8; Ashkum—2w

Prime farmland category: Not prime farmland

Hydric soil status: Orthents—not hydric; Urban land—not applicable; Ashkum—hydric

Hydric criteria code: 2B3

Orthents, clayey, refuse substratum

These soils consist of fill material over landfill waste (fig. 11). They are fine, mixed, active, nonacid, mesic Typic Udorthents. The surface layer is mixed very dark brown and black friable silty clay loam about 8 inches thick. The upper part of the underlying material is mottled brown and grayish brown firm silty clay loam about 30 inches thick. The remainder of the underlying material to a depth of 60 inches or more consists of garbage and other refuse, mixed soil materials, rubble from demolition of buildings and pavements, and other material.

522B—Orthents, clayey, refuse substratum, undulating

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Orthents and similar soils: 97 percent

Dissimilar components: 3 percent



Figure 11.—An area of Orthents, clayey, refuse substratum, that was formerly a landfill and has been converted to a golf course.

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 1 percent or more than 6 percent
- Soils that contain less clay and more sand or silt in the upper half of the profile

Dissimilar components:

- Areas of urban land

Properties and Qualities of the Orthents

Parent material: Human-transported material

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Slow or moderately slow

Depth to restrictive feature: 5 to 12 inches to densic material

Available water capacity: About 4.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 4.0 percent

Shrink-swell potential: High

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very high

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 4s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

522D—Orthents, clayey, refuse substratum, rolling

Setting

Landform: Ground moraines and lake plains

Position on the landform: Backslopes

Map Unit Composition

Orthents and similar soils: 97 percent

Dissimilar components: 3 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that contain less clay and more sand or silt in the upper half of the profile

Dissimilar components:

- Areas of urban land

Properties and Qualities of the Orthents

Parent material: Human-transported material

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Slow or moderately slow

Depth to restrictive feature: 4 to 10 inches to densic material

Available water capacity: About 3.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 4.0 percent

Shrink-swell potential: High

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very high

Susceptibility to water erosion: High

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

522F—Orthents, clayey, refuse substratum, steep

Setting

Landform: Ground moraines and lake plains

Position on the landform: Backslopes

Map Unit Composition

Orthents and similar soils: 97 percent

Dissimilar components: 3 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 20 percent or more than 30 percent
- Soils that contain less clay and more sand or silt in the upper half of the profile

Dissimilar components:

- Areas of urban land

Properties and Qualities of the Orthents

Parent material: Human-transported material

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Slow or moderately slow

Depth to restrictive feature: 3 to 9 inches to densic material

Available water capacity: About 4.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 4.0 percent

Shrink-swell potential: High

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very high

Susceptibility to water erosion: High

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 6e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

Orthents, loamy

These soils are in areas of disturbed soil material. They are fine-loamy, mixed, active, nonacid, mesic Oxyaquic Udorthents. The surface layer is very dark grayish brown, friable silt loam about 6 inches thick. The upper part of the underlying material is brown and dark yellowish brown firm clay loam and silty clay loam. The lower part to a depth of 60 inches or more is mottled yellowish brown and brown firm loam.

392A—Urban land-Orthents, loamy, complex, nearly level

Setting

Landform: Lake plains and ground moraines

Position on the landform: Summits

Map Unit Composition

Urban land: 70 percent

Orthents and similar soils: 20 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have more silt and less sand throughout the profile
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The moderately well drained, clayey Orthents, which are very shallow or shallow to densic material; on summits
- The well drained, loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Urban land—8; Orthents—2s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

392B—Urban land-Orthents, loamy, complex, gently sloping

Setting

Landform: Outwash plains, ground moraines, and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Urban land: 65 percent

Orthents and similar soils: 25 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have more silt and less sand throughout the profile
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of less than 2 percent or more than 6 percent

Dissimilar components:

- The moderately well drained, clayey Orthents, which are very shallow or shallow to densic material; on summits and backslopes
- The well drained, loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits and backslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Urban land—8; Orthents—3e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

802A—Orthents, loamy, nearly level

Setting

Landform: Lake plains and ground moraines

Position on the landform: Summits

Map Unit Composition

Orthents and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have more silt and less sand throughout the profile
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of more than 1 percent

Dissimilar components:

- The moderately well drained, clayey Orthents, which are very shallow or shallow to densic material; on summits
- The well drained, loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits
- Areas of urban land
- The poorly drained Drummer and Pella soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

802B—Orthents, loamy, undulating

Setting

Landform: Outwash plains, ground moraines, and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Orthents and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that contain less sand and more silt throughout the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have carbonates near the surface
- Soils that have slopes of less than 1 percent or more than 6 percent
- Soils that contain more gravel in the lower half of the profile

Dissimilar components:

- The moderately well drained, clayey Orthents, which are very shallow or shallow to densic material; on summits and backslopes
- Areas of urban land
- The well drained, loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits and backslopes
- The poorly drained Drummer and Pella soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 3.5 feet to 5.0 (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

802D—Orthents, loamy, rolling

Setting

Landform: Ground moraines, outwash plains, and lake plains
Position on the landform: Backslopes

Map Unit Composition

Orthents and similar soils: 92 percent
Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that contain more silt and less sand throughout the profile
- Soils that contain more gravel in the lower half of the profile
- Soils that have a seasonal high water table beginning at a depth of less than 3.5 feet or more than 5.0 feet
- Soils that have carbonates near the surface

Dissimilar components:

- The moderately well drained, clayey Orthents, which are very shallow or shallow to dense material; on backslopes
- Areas of urban land

Properties and Qualities of the Orthents

Parent material: Earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

2049A—Orthents, loamy-Urban land-Watseka complex, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Orthents—summits; Watseka—summits and footslopes

Map Unit Composition

Orthents and similar soils: 42 percent

Urban land: 38 percent

Watseka and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that contain less sand and more silt or clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of 2.0 to 3.5 feet
- Soils that have carbonates near the surface
- Soils that have slopes of more than 2 percent
- Soils that contain more gravel in the lower half of the profile

Dissimilar components:

- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 6.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Watseka Soil

Parent material: Eolian deposits and/or outwash

Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)
Potential for frost action: Low
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: Orthents—2s; Urban land—8; Watseka—3s
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

2571A—Orthents, loamy-Urban land-Whitaker complex, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on the landform: Orthents—summits; Whitaker—summits and footslopes

Map Unit Composition

Orthents and similar soils: 42 percent
Urban land: 38 percent
Whitaker and similar soils: 15 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have more silt and less sand throughout the profile
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table beginning at a depth of 2.0 to 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Whitaker Soil

Parent material: Loamy outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Orthents—2s; Urban land—8; Whitaker—2w

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

2740A—Orthents, loamy-Urban land-Darroch complex, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Summits

Map Unit Composition

Orthents and similar soils: 42 percent

Urban land: 38 percent

Darroch and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar componentss:

- Soils that have more silt and less sand

- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table beginning at a depth of 2.0 to 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Darroch Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.5 to 4.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Orthents—2s; Urban land—8; Darroch—1

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric



Figure 12.—An example of Orthents, loamy-skeletal, undulating, which consists of soil material and construction debris.

Orthents, loamy-skeletal

These soils are in industrial areas with disturbed soil material (fig. 12). They are loamy-skeletal, mixed, active, calcareous, mesic Typic Udorthents. The surface layer is mixed very dark grayish brown and dark brown friable loam about 6 inches thick. It contains more than 35 percent fragments consisting of construction debris, such as concrete, brick, steel, glass, pipes, wood, fiber glass, asphalt, and rebar. The underlying material to a depth of 60 inches or more is mixed grayish brown and brown friable to firm loam. It contains more than 35 percent fragments.

807A—Orthents, loamy-skeletal, nearly level

Setting

Landform: Lake plains and ground moraines

Position on the landform: Summits

Map Unit Composition

Orthents and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that contain less sand and more silt throughout the profile
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that contain less than 35 percent coarse fragments
- Soils that have slopes of more than 2 percent

Dissimilar components:

- Areas of urban land

Properties and Qualities of the Orthents

Parent material: Human-transported material

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 6.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.5 percent

Shrink-swell potential: Moderate

Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Very low

Interpretive Groups

Land capability classification: 7s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

807B—Orthents, loamy-skeletal, undulating

Setting

Landform: Lake plains and ground moraines

Position on the landform: Summits and backslopes

Map Unit Composition

Orthents and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that contain less sand and more silt throughout the profile
- Soils that have a seasonal high water table at a depth of less than 6 feet

- Soils that contain less than 35 percent coarse fragments
- Soils that have slopes of less than 2 percent or more than 6 percent

Dissimilar components:

- Areas of urban land

Properties and Qualities of the Orthents

Parent material: Human-transported material

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 6.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.5 percent

Shrink-swell potential: Moderate

Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Very low

Interpretive Groups

Land capability classification: 7s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

Orthents, undulating, stony

These soils are in areas of disturbed, calcareous soil material, stones, and boulders from spoil banks that were formed during dredging operations. They are fine-loamy, mixed, active, calcareous, mesic Oxyaquic Udorthents. The surface layer is very dark grayish brown friable stony loam about 6 inches thick. The underlying material to a depth of 60 inches or more is brown, dark yellowish brown, and yellowish brown friable and firm stony clay loam and stony loam.

535B—Orthents, undulating, stony

Setting

Landform: Dredge spoil bank on terraces

Position on the landform: Summits and backslopes

Map Unit Composition

Orthents and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that contain less than 15 percent stones in the profile
- Soils that have carbonates beginning at a depth of more than 10 inches
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have slopes of less than 1 percent or more than 6 percent

Dissimilar components:

- The poorly drained, clayey Aquents, which are manmade; on toeslopes

- Areas of urban land
- Bodies of water

Properties and Qualities of the Orthents

Parent material: Dredge spoils

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow or moderate

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 1.0 percent

Shrink-swell potential: Low

Apparent seasonal high water table: 4 to 6 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Very low

Interpretive Groups

Land capability classification: 7s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

Ozaukee Series

Drainage class: Moderately well drained

Landform: Ground moraines and end moraines

Parent material: Thin mantle of loess or other silty material and the underlying till

Slope range: 2 to 30 percent

Taxonomic classification: Fine, illitic, mesic Oxyaquic Hapludalfs

Typical Pedon

Ozaukee silt loam, 2 to 4 percent slopes; at an elevation of 780 feet; 2,540 feet north and 2,200 feet east of the southwest corner of section 31, T. 39 N., R. 10 E.; Du Page County, Illinois; USGS Naperville topographic quadrangle; lat. 41 degrees 49 minutes 14 seconds N. and long. 88 degrees 08 minutes 18 seconds W., NAD 27; UTM Zone 16T, 0405455 Easting and 4630483 Northing, NAD 83:

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, yellowish brown (10YR 5/4) dry; moderate very fine and fine granular structure; friable; many very fine and fine roots; neutral; clear smooth boundary.

BE—4 to 10 inches; brown (10YR 4/3) silt loam; weak thick platy structure parting to moderate fine subangular blocky; friable; many very fine roots; few distinct dark grayish brown (10YR 4/2) coatings on faces of peds; moderately acid; clear smooth boundary.

2Bt1—10 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many distinct brown (10YR 4/3) clay films on faces of peds; 1 percent gravel; slightly acid; abrupt smooth boundary.

2Bt2—16 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky;

friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films and brown (10YR 4/3) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 5 percent gravel; neutral; clear smooth boundary.

2Bt3—21 to 27 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2Bt4—27 to 33 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) very weakly cemented iron-manganese concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 8 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

2BCt—33 to 39 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine and medium subangular blocky structure; firm; common very fine roots; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) very weakly cemented iron-manganese concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 6 percent gravel; strongly effervescent; moderately alkaline; abrupt smooth boundary.

2Cd—39 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; few very fine roots; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; many medium white (10YR 8/1) carbonate concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 6 percent gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches

Depth to carbonates: 15 to 40 inches

Depth to the base of soil development: 20 to 45 inches

Ap or A horizon:

Hue—10YR

Value—3 or 4

Chroma—1 to 3

Texture—silt loam or silty clay loam

E or BE horizon (if it occurs):

Hue—10YR

Value—4 or 5

Chroma—2 or 3
Texture—silt loam

2Bt or 2BCt horizon:

Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam, silty clay, or clay
Content of rock fragments—1 to 15 percent

2Cd horizon:

Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 to 4
Texture—silty clay loam or clay loam
Content of rock fragments—3 to 15 percent

530B—Ozaukee silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that have a thicker, darker surface layer
- Soils that contain less clay and more sand or silt in the subsoil
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that contain more sand and less silt in the lower part of the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

530C—Ozaukee silt loam, 4 to 6 percent slopes

Setting

Landform: End moraines and ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Ozaukee and similar soils: 96 percent
Dissimilar components: 4 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that contain less clay and more sand or silt in the subsoil
- Soils that have a thicker, darker surface layer
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that contain more sand and less silt in the lower part of the profile

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to densic material
Available water capacity: About 7.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

530C2—Ozaukee silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Shoulders and backslopes

Map Unit Composition

Ozaukee and similar soils: 96 percent

Dissimilar components: 4 percent

Components of Minor Extent

Similar soils:

- Soils that are slightly eroded
- Soils that contain less clay and more sand or silt in the subsoil
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that contain more sand and less silt in the lower part of the profile

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 6.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

530D—Ozaukee silt loam, 6 to 12 percent slopes

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that contain less clay and more sand or silt in the subsoil
- Soils that have a thicker, darker surface layer
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that contain more sand and less silt in the lower part of the profile

Dissimilar components:

- The nearly level, somewhat poorly drained Blount soils on summits and footslopes
- The moderately well drained, clayey Orthents, which are manmade; on backslopes
- Areas of urban land

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

530D2—Ozaukee silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain less clay and more sand or silt in the subsoil

- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that contain more sand and less silt in the lower part of the profile

Dissimilar components:

- The nearly level, somewhat poorly drained Blount soils on summits and footslopes
- The moderately well drained, clayey Orthents, which are manmade; on backslopes
- Areas of urban land

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 6.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

530D3—Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that contain less clay and more sand or silt in the subsoil
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that contain more sand and less silt in the lower part of the profile

Dissimilar components:

- The nearly level, somewhat poorly drained Blount soils on summits and footslopes

- The moderately well drained, clayey Orthents, which are manmade; on backslopes
- Areas of urban land

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 6.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 1.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Accelerated erosion: The surface layer is mostly subsoil material

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: High

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

530E—Ozaukee silt loam, 12 to 20 percent slopes

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that contain less clay and more sand or silt in the subsoil
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 12 percent or more than 20 percent
- Soils that contain more sand and less silt in the lower part of the profile

Dissimilar components:

- The gently sloping, somewhat poorly drained Blount soils on backslopes and footslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 6.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: High

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

530F—Ozaukee silt loam, 20 to 30 percent slopes

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that have slopes of less than 20 percent or more than 30 percent
- Soils that contain less clay and more sand or silt in the subsoil
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that contain more sand and less silt in the lower part of the profile

Dissimilar components:

- The gently sloping, somewhat poorly drained Blount soils on backslopes and footslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 6.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very high

Susceptibility to water erosion: High

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

2530B—Alfic Udarents, clayey-Urban land-Ozaukee complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Ozaukee and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 3.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to densic material
Available water capacity: About 7.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Ozaukee—2e; Urban land—8
Prime farmland category: Not prime farmland
Hydric soil status: Alfic Udarents and Ozaukee—not hydric; Urban land—not applicable

2530D—Alfic Udarents, clayey-Urban land-Ozaukee complex, 6 to 12 percent slopes

Setting

Landform: Ground moraines, end moraines, and lake plains
Position on the landform: Backslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent
Urban land: 38 percent
Ozaukee and similar soils: 15 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 6 percent or more than 12 percent

Dissimilar components:

- The nearly level, somewhat poorly drained Blount soils on summits and footslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 48 to 66 inches to densic material
Available water capacity: About 5.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 3.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)
Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: High

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents—4e; Urban land—8; Ozaukee—3e

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Ozaukee—not hydric; Urban land—not applicable

Pella Series

Drainage class: Poorly drained

Landform: Outwash plains, ground moraines, and lake plains

Parent material: Loess or other silty material and the underlying outwash

Slope range: 0 to 2 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Pella silty clay loam, 0 to 2 percent slopes; at an elevation of 658 feet; 190 feet north and 2,225 feet west of the southeast corner of section 14, T. 27 N., R. 9 E.; Ford County, Illinois; USGS Piper City topographic quadrangle; lat. 40 degrees 48 minutes 27 seconds N. and long. 88 degrees 09 minutes 13 seconds W., NAD 27; UTM Zone 16T, 0402698 Easting and 4518025 Northing, NAD 83:

Ap—0 to 7 inches; black (N 2.5/) silty clay loam, dark gray (N 4/) dry; moderate very fine and fine granular structure; friable; slightly acid; abrupt smooth boundary.

A—7 to 12 inches; black (N 2.5/) silty clay loam, dark gray (N 4/) dry; moderate fine and very fine granular structure; friable; neutral; clear smooth boundary.

- Bg1—12 to 20 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine and very fine angular blocky; friable; few fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; neutral; clear smooth boundary.
- Bg2—20 to 27 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine and medium angular blocky; friable; common medium distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.
- Bg3—27 to 33 inches; gray (5Y 6/1) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; friable; thin discontinuous very dark gray (10YR 3/1) krotovinas; many medium prominent light olive brown (2.5Y 5/4) masses of oxidized iron and common fine prominent dark yellowish brown (10YR 4/4) masses of oxidized iron-manganese in the matrix; slightly effervescent; slightly alkaline; gradual wavy boundary.
- 2BCg—33 to 42 inches; gray (5Y 6/1) silt loam with a high sand content; weak medium prismatic structure; friable; moderate medium prominent light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly effervescent; moderately alkaline; gradual wavy boundary.
- 2Cg—42 to 60 inches; gray (5Y 6/1) stratified silt loam, loam, and sandy loam; massive; friable; many medium prominent light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 22 inches

Thickness of loess or other silty material: 20 to 40 inches

Depth to carbonates: 16 to 40 inches

Depth to the base of soil development: 30 to 50 inches

Ap or A horizon:

Hue—10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—silty clay loam

Bg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam

2Bg or 2BCg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—1 to 6

Texture—silt loam, clay loam, silty clay loam, loam, or sandy loam

Content of rock fragments—less than 10 percent

2Cg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—1 to 8

Texture—stratified loamy sand to silty clay loam

Content of rock fragments—less than 15 percent

153A—Pella silty clay loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, ground moraines, and lake plains

Position on the landform: Toeslopes

Map Unit Composition

Pella and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that contain carbonates beginning at a depth of more than 40 inches
- Soils that contain lacustrine deposits or till in the lower part of the profile
- Soils that have outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that are darker colored in the upper part of the subsoil
- Soils that are overlain by recent, light-colored deposits
- Soils that contain more gravel in the lower part of the profile

Dissimilar components:

- The poorly drained, calcareous Harpster soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land
- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Pella Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

Peotone Series

Drainage class: Very poorly drained

Landform: Ground moraines and depressions

Parent material: Colluvium

Soil Survey of Cook County, Illinois

Slope range: 0 to 2 percent

Taxonomic classification: Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Typical Pedon

Peotone silty clay loam, 0 to 2 percent slopes; at an elevation of 707 feet; 315 feet south and 2,233 feet east of the northwest corner of section 21, T. 29 N., R. 9 E.; Ford County, Illinois; USGS Cabery topographic quadrangle; lat. 40 degrees 58 minutes 49 seconds N. and long. 88 degrees 12 minutes 00 seconds W., NAD 27; UTM Zone 16T, 0399043 Easting and 4537265 Northing, NAD 83:

Ap—0 to 7 inches; black (N 2.5/) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.

A—7 to 13 inches; black (N 2.5/) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.

Bg1—13 to 27 inches; black (N 2.5/) silty clay loam, dark gray (10YR 4/1) dry; moderate medium angular blocky structure; friable; common very fine roots; neutral; clear smooth boundary.

Bg2—27 to 41 inches; dark gray (10YR 4/1) silty clay; moderate fine prismatic structure; firm; common very fine roots; common fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Bg3—41 to 50 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure; few very fine roots; firm; common medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly alkaline; clear smooth boundary.

Cg—50 to 60 inches; dark gray (10YR 4/1) silty clay loam; massive; firm; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; few fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches

Depth to carbonates: More than 30 inches

Depth to the base of soil development: 38 to 60 inches

Ap or A horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—2, 2.5, or 3

Chroma—0 or 1

Texture—silty clay loam

Bg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 6

Chroma—0 to 2

Texture—silty clay loam or silty clay

Cg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam, silt loam, or silty clay

330A—Peotone silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines

Position on the landform: Toeslopes

Map Unit Composition

Peotone and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that are overlain by light-colored, recent deposits
- Soils that contain less clay and more silt in the subsurface layer and subsoil
- Soils that are lighter colored in the upper half of the subsoil

Dissimilar components:

- The very poorly drained, organic Houghton soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Peotone Soil

Parent material: Colluvium

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 5.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through June)

Ponding: At the surface to 0.5 foot above the surface (January through June)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

1330A—Peotone silty clay loam, undrained, 0 to 2 percent slopes

Setting

Landform: Ground moraines and depressions

Position on the landform: Toeslopes

Map Unit Composition

Peotone and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that are lighter colored in the upper part of the subsoil
- Soils that contain less clay and more silt in the subsurface layer and subsoil
- Soils that are overlain by recent, light-colored deposits

Dissimilar components:

- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Peotone Soil

Parent material: Colluvium

Drainage class: Very poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 5.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through December)

Ponding: At the surface to 1 foot above the surface (January through December)

Potential for frost action: High

Hazard of corrosion: Moderate for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 5w

Prime farmland category: Not prime farmland

Hydric soil status: Hydric

Hydric criteria codes: 2B3, 3

4904A—Muskego and Peotone soils, ponded, 0 to 2 percent slopes

Setting

Landform: Ground moraines and depressions

Position on the landform: Toeslopes

Map Unit Composition

Muskego and similar soils: 53 percent

Peotone and similar soils: 42 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have coprogenous material beginning at a depth of more than 51 inches
- Soils that are calcareous near the surface
- Soils that are overlain by light-colored, recent deposits
- Soils that contain less clay and more sand or silt in the subsurface layer and subsoil
- Soils that are lighter colored in the upper half of the subsoil

Dissimilar components:

- Bodies of water

Properties and Qualities of the Muskego Soil

Parent material: Herbaceous organic material over coprogenic material
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 17.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 60.0 to 90.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through December)
Ponding: At the surface to 1 foot above the surface (January through December)
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Properties and Qualities of the Peotone Soil

Parent material: Colluvium
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 5.0 to 7.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through December)
Ponding: At the surface to 1 foot above the surface (January through December)
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 7w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric
Hydric criteria codes: 2B3, 3

862—Pits, sand

This map unit consists of nearly level to gently sloping areas with excavations from which sand has been removed for construction, roadfill, or other uses. The pits have nearly vertical sidewalls. The excavations are generally on sandy beach ridges.

863—Pits, clay

This map unit consists of areas in which clay has been removed for making bricks and other clay products. Most of the clay is fine textured lakebed sediment, although some is till. Most areas are in the southeastern part of Cook County. Some pits are active, and some have been abandoned.

864—Pits, quarry

This map unit consists of nearly level to gently sloping areas with excavations and spoil piles where limestone and dolostone have been mined. The pits have nearly vertical sidewalls. The excavated rock is used for building stone, riprap on the shoreline of lakes, road construction, ground lime, and other agricultural and industrial uses. The quarries are chiefly on bedrock domes covered with a thin layer of glacial drift or on water-swept benches along the Des Plaines River. Some pits are active, and others have been abandoned. Some contain water. One of the largest quarries in the world is located near Thornton in the southeastern part of Cook County.

865—Pits, gravel

This map unit consists of nearly level to gently sloping areas from which gravel and some sand have been extracted. The pits have nearly vertical sidewalls. The gravel is used mainly for roadfill, concrete or asphalt, or other construction uses. It commonly contains a large amount of dolomitic stones that need to be crushed. Some pits are active, and others have been abandoned. Some contain water.

Plainfield Series

Drainage class: Excessively drained

Landform: Beach ridges on lake plains

Parent material: Eolian sands

Slope range: 1 to 6 percent

Taxonomic classification: Mixed, mesic Typic Udipsamments

Typical Pedon

Plainfield loamy sand, 1 to 6 percent slopes; at an elevation of 630 feet; 2,400 feet north and 3,000 feet east of the southwest corner of section 28, T. 40 N., R. 13 E.; Cook County, Illinois; USGS Blue Island topographic quadrangle; lat. 41 degrees 40 minutes 11.6 seconds N. and long. 87 degrees 37 minutes 50.1 seconds W., NAD 27; UTM Zone 16T, 0447507 Easting and 4613317 Northing, NAD 83:

A—0 to 8 inches; very dark grayish brown (10YR 3/2) loamy sand, pale brown (10YR 6/3) dry; moderate medium granular structure; very friable; common fine and coarse and many medium roots; 3 percent gravel; moderately acid; abrupt smooth boundary.

Bw—8 to 20 inches; brown (7.5YR 4/4) loamy sand; weak medium subangular blocky structure; very friable; common medium and coarse roots; few distinct organic stains on surfaces along root channels; 14 percent gravel; few thin strata containing 25 percent gravel; slightly acid; clear wavy boundary.

BC—20 to 32 inches; dark yellowish brown (10YR 4/6) sand; single grain; loose; common medium and very coarse roots; 14 percent gravel; few thin strata containing 35 percent gravel; moderately acid; clear wavy boundary.

C—32 to 60 inches; yellowish brown (10YR 5/6) sand; single grain; loose; 14 percent gravel; few thin strata containing 20 percent gravel; moderately acid.

Range in Characteristics

Depth to the base of soil development: 24 to 50 inches

A or Ap horizon:

Hue—10YR

Value—2 to 4



Figure 13.—An area of Plainfield loamy sand, 1 to 6 percent slopes, on an old beach ridge in Cook County.

Chroma—1 to 3

Texture—loamy sand

Bw or BC horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—sand or loamy sand

Content of rock fragments—less than 15 percent

C horizon:

Hue—10YR

Value—5 to 7

Chroma—3 to 6

Texture—sand or coarse sand

Content of rock fragments—less than 15 percent

54B—Plainfield loamy sand, 1 to 6 percent slopes

Setting

Landform: Beach ridges on lake plains (fig. 13)

Position on the landform: Summits and shoulders

Map Unit Composition

Plainfield and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that have more gravel in the lower part of the profile
- Soils that have a thicker, darker surface soil
- Soils that contain finer sand in the subsoil
- Soils that have slopes of less than 1 percent or more than 6 percent
- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet

Dissimilar components:

- Areas of urban land
- The somewhat poorly drained Watseka soils on summits and footslopes

Properties and Qualities of the Plainfield Soil

Parent material: Eolian sands

Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Rapid

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 3.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Low

Potential for frost action: Low

Hazard of corrosion: Low for steel and high for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 4s

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

Psamments

These soils are in parks and residential areas on beach ridges and dunes on lake plains where soil material has been disturbed. They also consist of some areas of dredge material used to fill in portions of Lake Michigan. These soils are mixed, mesic Typic Udipsamments. The surface layer is mixed very dark gray and very dark grayish brown friable loam about 10 inches thick. The underlying material is brown loose sand and very friable loamy sand to a depth of 60 inches.

800A—Psamments, nearly level

Setting

Landform: Lake plains and beach ridges

Position on the landform: Summits

Map Unit Composition

Psamments and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet

- Soils that contain more clay and less sand in the substratum
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Psamments

Parent material: Earthy fill

Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 4.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 3.0 percent

Shrink-swell potential: Low

Potential for frost action: Low

Hazard of corrosion: Low for steel and moderate for concrete

Surface runoff class: Very low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

2800A—Urban land-Psamments complex, nearly level

Setting

Landform: Lake plains and beach ridges

Position on the landform: Summits

Map Unit Composition

Urban land: 65 percent

Psamments and similar soils: 30 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet
- Soils that contain more clay and less sand in the substratum
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The somewhat poorly drained Watseka soils on summits and footslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Psamments

Parent material: Earthy fill

Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 3.0 percent
Shrink-swell potential: Low
Potential for frost action: Low
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Urban land—8; Psamments—4s
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

2800B—Urban land-Psamments complex, gently sloping

Setting

Landform: Lake plains and beach ridges
Position on the landform: Summits

Map Unit Composition

Urban land: 65 percent
Psamments and similar soils: 30 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet
- Soils that contain more clay and less sand in the substratum
- Soils that have slopes of less than 2 percent or more than 6 percent

Dissimilar components:

- The somewhat poorly drained Watseka soils on summits and footslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Psamments

Parent material: Earthy fill
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 3.0 percent
Shrink-swell potential: Low
Potential for frost action: Low
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Urban land—8; Psamments—4s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

Rockton Series

Drainage class: Well drained

Landform: Ground moraines, outwash plains, and hillslopes

Parent material: Loamy drift over clayey residuum derived from limestone and dolomite

Slope range: 2 to 6 percent

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Rockton silt loam, 2 to 6 percent slopes; at an elevation of about 797 feet; 1,635 feet south and 195 feet east of the northwest corner of section 31, T. 44 N., R. 5 E.; McHenry County, Illinois; USGS Garden Prairie topographic quadrangle; lat. 42 degrees 15 minutes 03 seconds N. and long. 88 degrees 42 minutes 17 seconds W., NAD 27; UTM Zone 16T, 0359370 and Easting 4679038 Northing, NAD 83:

- Ap—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure parting to weak fine granular; friable; common very fine roots; neutral; clear smooth boundary.
- A—8 to 11 inches; very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; weak fine and medium subangular blocky structure parting to moderate fine granular; friable; common very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; neutral; abrupt smooth boundary.
- BA—11 to 14 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; friable; common very fine roots; common distinct black (10YR 2/1) organic coatings on faces of peds; 1 percent gravel; neutral; abrupt smooth boundary.
- Bt1—14 to 18 inches; brown (10YR 4/3) clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; few distinct dark brown (10YR 3/3) clay films on faces of peds; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; 1 percent gravel; neutral; abrupt smooth boundary.
- Bt2—18 to 24 inches; dark yellowish brown (10YR 4/4) clay loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common very fine roots; few distinct brown (10YR 4/3) and dark brown (10YR 3/3) clay films on faces of peds; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in pores; 3 percent gravel; neutral; clear smooth boundary.
- Bt3—24 to 31 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; 5 percent gravel; neutral; abrupt smooth boundary.
- 2BC—31 to 35 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent brownish yellow (10YR 6/6) clay loam; weak medium subangular blocky structure; firm; common very fine roots; 10 percent gravel; strongly effervescent; slightly alkaline; abrupt smooth boundary.
- 2R—35 inches; limestone bedrock.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches

Depth to lithic contact: 20 to 40 inches

Depth to the base of soil development: 20 to 40 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

BA horizon (if it occurs):

Hue—10YR

Value—3 or 4

Chroma—2 or 3

Texture—loam or silt loam

Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—clay loam, loam, or sandy clay loam

2BC horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—clay loam, silty clay, or clay

503B—Rockton silt loam, 2 to 6 percent slopes

Setting

Landform: Outwash plains and ground moraines

Position on the landform: Summits and backslopes

Map Unit Composition

Rockton and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that contain less sand and more silt in the upper half of the subsoil
- Soils that have slopes of less than 2 percent or more than 6 percent
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Rockton Soil

Parent material: Loamy drift over clayey residuum over dolomite and/or limestone bedrock

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow

Soil Survey of Cook County, Illinois

Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 5.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: High
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Rodman Series

Drainage class: Excessively drained
Permeability: Moderately rapid in the upper part of the profile and very rapid in the lower part
Landform: Outwash plains and end moraines
Parent material: Sandy and gravelly glaciofluvial deposits
Slope range: 12 to 30 percent
Taxonomic classification: Sandy-skeletal, mixed, mesic Typic Hapludolls

Typical Pedon

Rodman gravelly loam in an area of Casco-Rodman complex, 20 to 30 percent slopes; at an elevation of 750 feet; 500 feet south and 2,600 feet east of the northwest corner of section 7, T. 44 N., R. 9 E.; McHenry County, Illinois; USGS Wauconda topographic quadrangle; lat. 42 degrees 18 minutes 45.6 seconds N. and long. 88 degrees 13 minutes 43.2 seconds W., NAD 27; UTM Zone 16T, 0398737 Easting and 4685225 Northing, NAD 83:

- A—0 to 11 inches; very dark gray (10YR 3/1) gravelly loam, dark grayish brown (10YR 4/2) dry; strong fine and medium granular structure; friable; many very fine and fine roots; 17 percent gravel; neutral; clear wavy boundary.
- Bw—11 to 14 inches; 50 percent dark brown (10YR 3/3) and 50 percent brown (10YR 4/3) gravelly loam; weak fine granular structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; 25 percent gravel; strongly effervescent; slightly alkaline; abrupt wavy boundary.
- C—14 to 60 inches; dark yellowish brown (10YR 4/4) very gravelly sand and very gravelly loamy sand; single grain; loose; common very fine roots; 50 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 6 to 15 inches
Depth to carbonates: 10 to 20 inches
Depth to the base of soil development: 10 to 20 inches

A horizon:
Hue—7.5YR or 10YR
Value—2 to 3
Chroma—1 or 2

Texture—gravelly loam
Content of rock fragments—15 to 25 percent

Bw horizon:

Hue—7.5YR or 10YR
Value—2 to 4
Chroma—1 to 3
Texture—loam or sandy loam or the gravelly analogs of these textures
Content of rock fragments—12 to 35 percent

C horizon:

Hue—10YR
Value—3 to 6
Chroma—1 to 4
Texture—the very gravelly or extremely gravelly analogs of loamy sand, sand, loamy coarse sand, or coarse sand
Content of rock fragments—35 to 75 percent

969E2—Casco-Rodman complex, 12 to 20 percent slopes, eroded

Setting

Landform: End moraines and outwash plains

Position on the landform: Backslopes

Map Unit Composition

Casco and similar soils: 52 percent
Rodman and similar soils: 43 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that contain more silt and less sand in the surface layer
- Soils that are only slightly eroded
- Soils that have sandy and gravelly deposits beginning at a depth of more than 20 inches
- Soils that have carbonates at or near the surface
- Soils that have slopes of less than 12 percent or more than 20 percent
- Soils that have till in the lower part of the profile

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes

Properties and Qualities of the Casco Soil

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Drainage class: Somewhat excessively drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 10 to 20 inches to strongly contrasting textural stratification

Available water capacity: About 3.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent

Shrink-swell potential: Moderate

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: High

Susceptibility to wind erosion: Low

Properties and Qualities of the Rodman Soil

Parent material: Sandy and gravelly glaciofluvial deposits

Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Moderately rapid

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 2.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Low

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Low

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: High

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

969F—Casco-Rodman complex, 20 to 30 percent slopes

Setting

Landform: End moraines and outwash plains

Position on the landform: Backslopes

Map Unit Composition

Casco and similar soils: 52 percent

Rodman and similar soils: 43 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that contain more silt and less sand in the surface layer
- Soils that have carbonates at or near the surface
- Soils that have sandy and gravelly deposits beginning at a depth of more than 20 inches
- Soils that have slopes of less than 20 percent or more than 30 percent
- Soils that are moderately eroded
- Soils that have till in the lower part of the profile

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes

Properties and Qualities of the Casco Soil

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: 10 to 20 inches to strongly contrasting textural stratification
Available water capacity: About 3.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High

Properties and Qualities of the Rodman Soil

Parent material: Sandy and gravelly glaciofluvial deposits
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 2.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Potential for frost action: Low
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Romeo Series

Drainage class: Poorly drained
Permeability: Moderate
Landform: Flood plains
Parent material: Alluvium over limestone bedrock
Slope range: 0 to 2 percent
Taxonomic classification: Loamy, mixed, superactive, mesic Lithic Endoaquolls

Typical Pedon

Romeo silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 587 feet; 620 feet south and 1,700 feet east of the northwest corner of section 20, T. 37 N., R. 11 E.; Cook County, Illinois; USGS Romeoville topographic quadrangle; lat. 41 degrees 41 minutes 02 seconds N. and long. 88 degrees 00 minutes 16 seconds W., NAD 27; UTM Zone 16T, 0416406 Easting and 4615164 Northing, NAD 83:

- A—0 to 5 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; many fine roots; slightly alkaline; abrupt smooth boundary.
- R—5 inches; light gray (10YR 7/2) level-bedded unweathered limestone bedrock; slightly effervescent.

Range in Characteristics

Depth to lithic contact: 2 to 10 inches

Depth to base of soil development: 2 to 10 inches

A horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—2 to 3

Chroma—1 or 2

Texture—silt loam

Content of rock fragments—less than 15 percent

3316A—Romeo silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Romeo and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain more than 15 percent rock fragments in the surface layer
- Soils that have bedrock beginning at a depth of more than 10 inches

Dissimilar components:

- The well drained, stony Orthents, which are manmade; on summits
- The poorly drained, very deep Sawmill soils on flood plains
- Bodies of water

Properties and Qualities of the Romeo Soil

Parent material: Alluvium over dolostone

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow or moderately slow

Depth to restrictive feature: 2 to 10 inches to lithic bedrock

Available water capacity: About 2.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Low

Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Flooding: Frequent (November through June)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 5s

Prime farmland category: Farmland of statewide importance

Hydric soil status: Hydric

Hydric criteria code: 2B3

Sawmill Series

Drainage class: Poorly drained

Landform: Flood plains

Parent material: Alluvium

Slope range: 0 to 2 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

Typical Pedon

Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 636 feet; 1,350 feet south and 140 feet west of the northeast corner of section 31, T. 30 N., R. 3 E.; Livingston County, Illinois; USGS Long Point topographic quadrangle; lat. 41 degrees 01 minute 36 seconds N. and long. 88 degrees 54 minutes 43 seconds W., NAD 27; UTM Zone 16T, 0339248 Easting and 4543492 Northing, NAD 83:

- Ap—0 to 9 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; slightly acid; abrupt smooth boundary.
- A1—9 to 17 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; slightly acid; clear smooth boundary.
- A2—17 to 24 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; few very fine roots; 1 percent gravel; neutral; clear smooth boundary.
- A3—24 to 29 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; 1 percent gravel; neutral; clear smooth boundary.
- Bg1—29 to 36 inches; dark gray (5Y 4/1) silty clay loam; weak medium prismatic structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.
- Bg2—36 to 41 inches; dark gray (5Y 4/1) silty clay loam; weak medium prismatic structure; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.
- BCg—41 to 48 inches; dark gray (5Y 4/1) silty clay loam; very weak medium prismatic structure; firm; few very fine roots; few fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; few fine prominent yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; common fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent gravel; neutral; abrupt smooth boundary.
- Cg—48 to 60 inches; 60 percent gray (10YR 5/1) and 40 percent brownish yellow (10YR 6/6) silt loam; massive; firm; few fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; 1 percent gravel; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches

Depth to carbonates: More than 48 inches

Depth to the base of soil development: 36 to 60 inches

Ap or A horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—silty clay loam

Bg or BCg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 or 2

Texture—silty clay loam

Cg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—horizon is silty clay loam, silt loam, or clay loam or is stratified with these textures

Content of rock fragments—less than 7 percent

1107A—Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Sawmill and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface soil
- Soils that contain less clay and more sand or silt in the upper half of the profile
- Soils that are overlain by light-colored, recent deposits
- Soils that have sandy and gravelly deposits in the lower part of the profile

Dissimilar components:

- Poorly drained, calcareous soils on flood plains
- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 7.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 0.5 foot below the surface
(November through June)

Ponding: At the surface to 0.5 foot above the surface (November through June)

Flooding: Frequent (November through June)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 5w

Prime farmland category: Not prime farmland

Hydric soil status: Hydric

Hydric criteria codes: 2B3, 3

3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Sawmill and similar soils: 95 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface soil
- Soils that contain less clay and more sand or silt in the upper half of the profile
- Soils that are overlain by light-colored, recent deposits
- Soils that have sandy and gravelly deposits in the lower part of the profile

Dissimilar components:

- Poorly drained, calcareous soils on flood plains

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 7.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Flooding: Frequent (November through June)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w

Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

Hydric soil status: Hydric

Hydric criteria code: 2B3

Saylesville Series

Drainage class: Moderately well drained

Permeability: Moderately slow

Landform: Lake plains

Parent material: Lacustrine deposits

Slope range: 2 to 4 percent

Taxonomic classification: Fine, illitic, mesic Typic Hapludalfs

Typical Pedon

Saylesville silt loam, 2 to 4 percent slopes; at an elevation of 747 feet; 765 feet north and 1,065 feet west of the southeast corner of section 10, T. 46 N., R. 9 E.; Lake County, Illinois; USGS Fox Lake topographic quadrangle; lat. 42 degrees 28 minutes 34 seconds N. and long. 88 degrees 09 minutes 48 seconds W., NAD 27; UTM Zone 16T, 0404365 Easting and 4703290 Northing, NAD 83:

- Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak fine and medium granular structure; friable; many very fine and fine roots; neutral; clear smooth boundary.
- Bt1—9 to 15 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; few distinct dark brown (10YR 3/3) clay films on faces of peds; very few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear wavy boundary.
- Bt2—15 to 21 inches; brown (10YR 4/3) silty clay; moderate fine and medium prismatic structure parting to moderate fine subangular blocky; firm; common very fine roots; common distinct dark brown (10YR 3/3) clay films on faces of peds; very few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; neutral; gradual wavy boundary.
- Bt3—21 to 28 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; slightly effervescent; slightly alkaline; clear wavy boundary.
- BCt—28 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; common very fine roots; very few prominent very pale brown (10YR 8/2) carbonate coatings on faces of peds; very few distinct dark grayish brown (10YR 4/2) clay films and very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; strongly effervescent; moderately alkaline; gradual wavy boundary.
- C1—34 to 39 inches; yellowish brown (10YR 5/4) silty clay loam; massive; firm; common very fine roots; few prominent very pale brown (10YR 8/2) carbonate

coatings along cleavage planes; very few distinct very dark grayish brown (10YR 3/2) coatings in root channels and/or pores; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron and light brownish gray (10YR 6/2) iron depletions in the matrix; violently effervescent; moderately alkaline; gradual wavy boundary.

C2—39 to 60 inches; light yellowish brown (10YR 6/4) silty clay loam; massive; firm; common prominent very pale brown (10YR 8/2) and light gray (10YR 7/1) carbonate coatings along cleavage planes; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron and light brownish gray (10YR 6/2) iron depletions in the matrix; violently effervescent; moderately alkaline.

Range in Characteristics

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 20 to 40 inches

Ap or A horizon:

Hue—10YR

Value—3 or 4

Chroma—1 to 3

Texture—silt loam

Bt or BCt horizon:

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—3 or 4

Texture—silty clay loam or silty clay

C horizon:

Hue—10YR

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silt loam

The Saylesville soils in this survey area are considered a taxadjunct to the Saylesville series because they have redoximorphic features at a shallower depth than is defined for the range of the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine, illitic, mesic Oxyaquic Hapludalfs.

370B—Saylesville silt loam, 2 to 4 percent slopes

Setting

Landform: Lake plains

Position on the landform: Backslopes and summits

Map Unit Composition

Saylesville and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have till in the lower part of the profile

- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Saylesville Soil

Parent material: Lacustrine deposits

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Selma Series

Drainage class: Poorly drained

Landform: Outwash plains, stream terraces, and lake plains

Parent material: Outwash

Slope range: 0 to 2 percent

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Selma loam, 0 to 2 percent slopes; at an elevation of 656 feet; 52 feet south and 160 feet west of the northeast corner of section 18, T. 28 N., R. 10 E.; Iroquois County, Illinois; USGS Piper City NE topographic quadrangle; lat. 40 degrees 54 minutes 36 seconds N. and long. 88 degrees 06 minutes 44 seconds W., NAD 27; UTM Zone 16T, 0406337 Easting and 4529366 Northing, NAD 83:

Ap—0 to 6 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; gradual smooth boundary.

A—6 to 13 inches; black (10YR 2/1) clay loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure; friable; common fine roots; neutral; gradual wavy boundary.

Btg1—13 to 19 inches; dark grayish brown (2.5Y 4/2) clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; many prominent very dark gray (2.5Y 3/1) organo-clay films on faces of peds and in pores; few fine

distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; neutral; gradual wavy boundary.

Btg2—19 to 28 inches; grayish brown (2.5Y 5/2) loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; many prominent dark gray (2.5Y 4/1) clay films on faces of peds; few fine light olive brown (2.5Y 5/4) iron-manganese nodules throughout; common medium distinct olive brown (2.5Y 4/4) masses of oxidized iron-manganese in the matrix; slightly alkaline; gradual wavy boundary.

Btg3—28 to 39 inches; grayish brown (2.5Y 5/2) loam; weak fine and medium subangular blocky structure; friable; common fine roots; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; few fine dark yellowish brown (10YR 4/6) iron-manganese nodules throughout; black (N 2.5/) krotovinas at a depth of 30 to 39 inches; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; slightly alkaline; gradual wavy boundary.

BCtg—39 to 44 inches; grayish brown (2.5Y 5/2) loam; weak medium subangular blocky structure; friable; few very fine roots; few faint dark gray (2.5Y 4/1) clay films on faces of peds; few fine dark yellowish brown (10YR 4/6) iron-manganese nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of oxidized iron in the matrix; strongly effervescent; slightly alkaline; gradual wavy boundary.

Cg1—44 to 54 inches; 55 percent dark gray (2.5Y 4/1), 35 percent gray (2.5Y 5/1), and 10 percent light yellowish brown (2.5Y 6/4) stratified sandy loam and loamy sand; massive in the sandy loam part and single grain in the loamy sand part; friable in the sandy loam part and loose in the loamy sand part; few very fine roots; very strongly effervescent; moderately alkaline; gradual wavy boundary.

Cg2—54 to 80 inches; 45 percent dark gray (2.5Y 4/1), 45 percent gray (2.5Y 5/1), and 10 percent light olive brown (2.5Y 5/6) stratified silt loam, sandy loam, and loamy sand; massive in the silt loam and sandy loam part and single grain in the loamy sand part; friable in the silt loam and sandy loam part and loose in the loamy sand part; few very fine roots; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Depth to carbonates: More than 30 inches

Depth to the base of soil development: 35 to 55 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—loam or clay loam

Bg, Btg, BCg, or BCtg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—loam, silty clay loam, clay loam, or sandy loam

Content of rock fragments—less than 10 percent

Cg or C horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—stratified sand to silt loam

Content of rock fragments—less than 13 percent

125A—Selma loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, stream terraces, and lake plains

Position on the landform: Toeslopes

Map Unit Composition

Selma and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have till in the lower part of the profile
- Soils that contain less sand and more silt in the upper two-thirds of the profile
- Soils that have a thinner surface soil
- Soils that are overlain by light-colored, recent deposits
- Soils that contain more gravel in the lower part of the profile

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land
- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Selma Soil

Parent material: Outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

973A—Hoopeston-Selma complex, 0 to 2 percent slopes

Setting

Landform: Lake plains and outwash plains

Position on the landform: Hoopeston—summits and footslopes; Selma—toeslopes

Map Unit Composition

Hoopeston and similar soils: 50 percent

Selma and similar soils: 45 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have slopes of more than 2 percent
- Soils that have a lighter colored or thinner surface layer
- Soils that have till or lacustrine deposits in the lower part of the profile
- Soils that have more sand and less clay and silt in the upper half of the profile
- Soils that contain more gravel in the lower part of the profile

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits

Properties and Qualities of the Hoopeston Soil

Parent material: Outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderately rapid

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Low

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderately high

Properties and Qualities of the Selma Soil

Parent material: Outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hoopeston—2s; Selma—2w

Prime farmland category: Not prime farmland

Hydric soil status: Hoopeston—not hydric; Selma—hydric

Hydric criteria code: 2B3

Selmass Series

Drainage class: Poorly drained

Landform: Outwash plains and valley trains

Parent material: Outwash

Slope range: 0 to 2 percent

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Selmass loam, 0 to 2 percent slopes; at an elevation of 630 feet; 170 feet north and 990 feet west of the southeast corner of section 3, T. 40 N., R. 12 E.; Cook County, Illinois; USGS River Forest NW topographic quadrangle; lat. 41 degrees 58 minutes 51.7 seconds N. and long. 87 degrees 51 minutes 06 seconds W., NAD 27; UTM Zone 16T, 0406337 Easting and 4529366 Northing, NAD 83:

- A1—0 to 7 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common fine and very fine roots; moderately acid; clear smooth boundary.
- A2—7 to 16 inches; black (10YR 2/1) clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to weak fine granular; friable; common fine and very fine roots; slightly acid; clear smooth boundary.
- Bg—16 to 21 inches; dark grayish brown (2.5Y 4/2) clay loam; moderate medium and fine subangular blocky structure; friable; common fine and very fine roots; common distinct black (10YR 2/1) organic coatings on surfaces along root channels and on faces of peds; common fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron-manganese in the matrix; slightly acid; clear smooth boundary.
- Btg1—21 to 33 inches; dark grayish brown (2.5Y 4/2) sandy clay loam; moderate medium subangular blocky structure; friable; few fine and common very fine roots; few distinct very dark gray (2.5Y 3/1) organo-clay films on faces of peds; few distinct black (10YR 2/1) organic coatings on surfaces along root channels and on faces of peds; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium distinct olive brown (2.5Y 4/4) masses of oxidized iron-manganese in the matrix; 2 percent gravel; black (10YR 2/1) krotovinas; neutral; clear smooth boundary.
- Btg2—33 to 40 inches; light brownish gray (2.5Y 6/2) loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few fine and common very fine roots; very few distinct black (10YR 2/1) organic coatings on surfaces along root channels; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine white (10YR 8/1) masses of carbonate throughout; 1 percent gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.
- BCg—40 to 51 inches; light brownish gray (2.5Y 6/2) loam; weak medium and coarse subangular blocky structure; friable; common very fine roots; very few distinct black (10YR 2/1) organic coatings on surfaces along root channels; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium white (10YR 8/1) masses of carbonate throughout; 1 percent gravel; strongly effervescent; slightly alkaline; clear wavy boundary.
- 2C—51 to 60 inches; yellowish brown (10YR 5/4 and 5/6) stratified loamy fine sand and fine sand; single grain; loose; few very fine roots; few fine white (10YR 8/1) masses of carbonates throughout; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to sandy outwash: 35 to 55 inches

Depth to carbonates: More than 30 inches

Depth to the base of soil development: 35 to 55 inches

Ap or A horizon:

Hue—10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—loam

Bg or Btg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—loam, clay loam, or sandy clay loam

BCg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—1 or 2

Texture—loam, sandy loam, or loamy sand

2Cg or 2C horizon:

Hue—10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—1 to 4

Texture—sand or loamy sand

Content of rock fragments—less than 15 percent

529A—Selmass loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and valley trains

Position on the landform: Toeslopes

Map Unit Composition

Selmass and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface soil
- Soils that have more gravel in the lower part of the profile
- Soils that have sandy outwash beginning at a depth of more than 55 inches
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land
- The very poorly drained, organic Houghton soils on toeslopes

Properties and Qualities of the Selmass Soil

Parent material: Outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: 39 to 55 inches to strongly contrasting textural stratification

Available water capacity: About 8.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: None assigned

Hydric soil status: Hydric

Hydric criteria code: 2B3

St. Clair Series

Drainage class: Moderately well drained

Permeability: Very slow

Landform: Ground moraines and end moraines

Slope range: 6 to 12 percent

Parent material: Thin mantle of loess or other silty material and the underlying till

Taxonomic classification: Fine, illitic, mesic Oxyaquic Hapludalfs

Typical Pedon

St. Clair silty clay loam, 12 to 20 percent slopes; at an elevation of 614 feet; 320 feet north and 80 feet west of the center of section 34, T. 30 N., R. 4 E.; Livingston County, Illinois; USGS Blackstone topographic quadrangle; lat. 41 degrees 01 minute 36 seconds N. and long. 88 degrees 44 minutes 54 seconds W., NAD 27; UTM Zone 16T, 0353019 Easting and 4543210 Northing, NAD 83:

A—0 to 5 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

Bt1—5 to 12 inches; brown (10YR 4/3) silty clay; moderate fine subangular blocky structure; very firm; few very fine roots; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; neutral; clear smooth boundary.

Bt2—12 to 18 inches; brown (10YR 4/3) silty clay; moderate fine subangular blocky structure; very firm; few very fine roots; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; common medium faint yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; 1 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.

BC—18 to 26 inches; grayish brown (10YR 5/2) silty clay; moderate fine subangular blocky structure; very firm; few very fine roots; common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; 3 percent gravel; violently effervescent; moderately alkaline; clear smooth boundary.

2Cd—26 to 60 inches; 70 percent grayish brown (10YR 5/2) and 30 percent light olive brown (2.5Y 5/4) silty clay; massive; very firm; few very fine roots; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 3 percent gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 20 inches

Depth to carbonates: 10 to 30 inches

Depth to the base of soil development: 20 to 48 inches

A horizon:

Hue—7.5YR or 10YR

Value—2 to 5

Chroma—1 to 3

Texture—silty clay loam

E horizon (if it occurs):

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—2 or 3

Texture—silty clay loam or silt loam

Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—silty clay or clay

Content of rock fragments—less than 10 percent

BC or 2Cd horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—1 to 4

Texture—silty clay, clay, or silty clay loam

Content of rock fragments—1 to 14 percent

560D2—St. Clair silty clay loam, 6 to 12 percent slopes, eroded

Setting

Landform: End moraines and ground moraines

Position on the landform: Backslopes

Map Unit Composition

St. Clair and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have less clay and more silt in the middle and lower parts of the profile
- Soils that have more clay in the surface layer
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that are more than 20 inches deep to till

Dissimilar components:

- The moderately well drained, calcareous Chatsworth soils on backslopes
- The nearly level, somewhat poorly drained Nappanee soils on summits and footslopes

Properties and Qualities of the St. Clair Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 20 to 48 inches to densic material
Available water capacity: About 4.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Accelerated erosion: The surface layer has been thinned by erosion
Potential for frost action: Moderate
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Farmland of statewide importance
Hydric soil status: Not hydric

Swygert Series

Drainage class: Somewhat poorly drained
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till
Slope range: 0 to 4 percent
Taxonomic classification: Fine, mixed, active, mesic Aquic Argiudolls

Typical Pedon

Swygert silty clay loam, 0 to 2 percent slopes; at an elevation of 675 feet; 339 feet south and 66 feet east of the northwest corner of section 7, T. 25 N., R. 13 W.; Iroquois County, Illinois; USGS Onarga East topographic quadrangle; lat. 40 degrees 38 minutes 36 seconds N. and long. 87 degrees 53 minutes 04 seconds W., NAD 27; UTM Zone 16T, 0425215 Easting and 4499540 Northing, NAD 83:

- Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine granular structure; friable; many fine roots; slightly acid; abrupt wavy boundary.
- A—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak medium angular blocky structure parting to weak fine subangular blocky; friable; many fine roots; common black (N 2.5/) krotovinas; slightly acid; abrupt smooth boundary.
- Bt1—12 to 18 inches; very dark grayish brown (10YR 3/2) silty clay, gray (10YR 5/1) dry; moderate fine subangular blocky structure; friable; many fine roots; many distinct black (10YR 2/1) and very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (10YR 2/1) iron-manganese concretions throughout; common fine faint brown (10YR 4/3) masses of oxidized iron-manganese in the matrix; slightly acid; clear wavy boundary.

- Bt2—18 to 26 inches; brown (10YR 4/3) silty clay; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films and dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine distinct olive gray (5Y 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt3—26 to 31 inches; yellowish brown (10YR 5/4) silty clay; moderate medium prismatic structure parting to weak medium and fine angular blocky; firm; common fine roots; common distinct very dark gray (10YR 3/1) organo-clay films in root channels; very dark gray (10YR 3/1) krotovinas; common distinct dark gray (10YR 4/1) and gray (10YR 5/1) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine prominent gray (5Y 5/1) iron depletions in the matrix; slightly effervescent (7 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.
- 2Bt4—31 to 41 inches; light olive brown (2.5Y 5/4) silty clay; moderate medium prismatic structure parting to weak coarse angular blocky; very firm; few fine roots; common prominent very dark gray (10YR 3/1) organo-clay films and gray (5Y 5/1) clay films on faces of peds; common medium prominent gray (5Y 5/1) iron depletions in the matrix; slightly effervescent (16 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.
- 2Bt5—41 to 51 inches; light olive brown (2.5Y 5/4) silty clay; weak coarse prismatic structure; very firm; few fine roots; common distinct very dark gray (5Y 3/1) organo-clay films in root channels; many distinct dark gray (5Y 4/1) clay films on faces of peds; common fine black (10YR 2/1) iron-manganese concretions throughout; few fine distinct olive (5Y 5/6) and few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; common fine prominent gray (5Y 5/1) iron depletions in the matrix; strongly effervescent (18 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.
- 2Cd—51 to 60 inches; brown (10YR 5/3) silty clay; massive; very firm; many distinct gray (5Y 6/1) pressure faces; common fine black (10YR 2/1) iron-manganese concretions throughout; few coarse prominent strong brown (7.5YR 5/6 and 5/8) masses of oxidized iron in the matrix; strongly effervescent (19 percent calcium carbonate equivalent); moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to till: Less than 45 inches

Depth to carbonates: 20 to 50 inches

Depth to densic material: 35 to 55 inches

Depth to the base of soil development: 35 to 55 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silty clay loam

Bt or 2Bt horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—2 to 6

Texture—silty clay or clay

Content of rock fragments—less than 8 percent

2Cd horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay, silty clay loam, or clay

Content of rock fragments—less than 12 percent

91A—Swygert silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and footslopes

Map Unit Composition

Swygert and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have carbonates beginning at a depth of less than 20 inches or more than 50 inches
- Soils that have slopes of more than 2 percent
- Soils that contain less clay and more silt or sand in the surface soil and subsoil
- Soils that have a thinner surface soil
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- The poorly drained Bryce and similar soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Swygert Soil

Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 35 to 55 inches to densic material

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

91B—Swygert silty clay loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Backslopes and footslopes

Map Unit Composition

Swygert and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have carbonates beginning at a depth of less than 20 inches or more than 50 inches
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that contain less clay and more silt or sand in the surface soil and subsoil
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that are moderately eroded

Dissimilar components:

- The poorly drained Bryce soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Swygert Soil

Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 35 to 55 inches to densic material

Available water capacity: About 6.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1.0 to 2.0 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Symerton Series

Drainage class: Moderately well drained

Landform: Ground moraines and lake plains

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till

Slope range: 2 to 4 percent

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls

Typical Pedon

Symerton silt loam, 2 to 5 percent slopes; at an elevation of 714 feet; 102 feet north and 1,806 feet west of the southeast corner of section 33, T. 24 N., R. 12 W.; Iroquois County, Illinois; USGS Hoopston topographic quadrangle; lat. 40 degrees 29 minutes 17 seconds N. and long. 87 degrees 42 minutes 58 seconds W., NAD 27; UTM Zone 16T, 0439310 Easting and 4482181 Northing, NAD 83:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, very dark gray (10YR 3/1) dry; weak very fine granular structure; friable; slightly acid; abrupt smooth boundary.

A—10 to 15 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; friable; moderately acid; clear smooth boundary.

AB—15 to 19 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; friable; many distinct black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.

2Bt1—19 to 25 inches; brown (10YR 4/3) gravelly clay loam; moderate very fine subangular blocky structure; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese nodules throughout; about 18 percent gravel; moderately acid; clear smooth boundary.

2Bt2—25 to 31 inches; brown (10YR 4/3) gravelly clay loam; moderate fine subangular blocky structure; firm; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese nodules throughout; about 18 percent gravel; neutral; clear smooth boundary.

2Bt3—31 to 35 inches; yellowish brown (10YR 5/4) gravelly loam; weak fine and medium subangular blocky structure; firm; common distinct brown (10YR 4/3) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese nodules throughout; few fine prominent yellowish red (5YR 5/8) masses of oxidized iron in the matrix; about 18 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

3Bt4—35 to 39 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; few distinct brown (10YR 4/3) clay films on faces of peds; few fine prominent yellowish red (5YR 5/8) masses of oxidized iron in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.

3C—39 to 60 inches; light olive brown (2.5Y 5/4) and light yellowish brown (2.5Y 6/4) silt loam; massive; firm; few fine prominent yellowish red (5YR 4/6) masses of oxidized iron in the matrix; few fine prominent gray (10YR 5/1) iron depletions in the matrix; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the dark surface layer: 10 to 20 inches

Thickness of the loess or other silty material: Less than 24 inches

Depth to till: 22 to 50 inches

Depth to carbonates: 24 to 55 inches

Depth to the base of soil development: 30 to 50 inches

Ap, A, or AB horizon:

Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam or silty clay loam

2Bt horizon:

Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—clay loam, loam, gravelly clay loam, or gravelly loam
Content of rock fragments—less than 20 percent

3Bt or 3BC horizon:

Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam or silt loam
Content of rock fragments—less than 8 percent

3C horizon:

Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—3 or 4
Texture—silty clay loam or silt loam
Content of rock fragments—less than 8 percent

294B—Symerton silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Symerton and similar soils: 91 percent

Dissimilar components: 9 percent

Components of Minor Extent

Similar soils:

- Soils that have till beginning at a depth of less than 22 inches or more than 50 inches
- Soils that have a thinner or lighter colored surface layer
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet

Dissimilar components:

- The poorly drained Ashkum and similar soils on toeslopes
- The moderately well drained Varna soils, which are moderately deep or deep to densic material; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Symerton Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Thorp Series

Drainage class: Poorly drained
Permeability: Slow
Landform: Outwash plains, ground moraines, and depressions
Parent material: Loess or other silty material and the underlying outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

Typical Pedon

Thorp silt loam, 0 to 2 percent slopes; at an elevation of 615 feet; 750 feet south and 1,935 feet east of the northwest corner of section 30, T. 30 N., R. 4 E.; Livingston County, Illinois; USGS Streator South topographic quadrangle; lat. 41 degrees 02 minutes 43 seconds N. and long. 88 degrees 48 minutes 25 seconds W., NAD 27; UTM Zone 16T, 0348130 Easting and 4545346 Northing, NAD 83:

- Ap—0 to 11 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; moderately acid; abrupt smooth boundary.
- Eg—11 to 15 inches; gray (10YR 6/1) silt loam, light brownish gray (10YR 6/2) dry; weak thin platy structure; friable; few very fine roots; few fine black (7.5YR 2.5/1) moderately cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.
- Btg1—15 to 22 inches; gray (10YR 5/1) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.
- Btg2—22 to 30 inches; gray (10YR 5/1) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; moderately acid; clear smooth boundary.
- Btg3—30 to 36 inches; gray (10YR 6/1) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; friable; few very fine

roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; moderately acid; clear smooth boundary.

Btg4—36 to 41 inches; gray (10YR 6/1) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; few faint light brownish gray (10YR 6/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; moderately acid; gradual smooth boundary.

2Btg5—41 to 49 inches; gray (10YR 6/1) sandy clay loam; weak fine prismatic structure; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; moderately acid; clear smooth boundary.

2Cg—49 to 60 inches; gray (10YR 6/1) stratified sandy loam and silty clay loam; massive; friable; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 2 percent gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 14 inches

Thickness of the loess or other silty material: 30 to 54 inches

Depth to carbonates: More than 40 inches

Depth to the base of soil development: 40 to 65 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

Eg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

Btg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silt loam

2Btg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—clay loam, loam, silt loam, sandy loam, or sandy clay loam

2Cg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—stratified loam, silt loam, sandy loam, sandy clay loam, clay loam, or loamy sand

206A—Thorp silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines, outwash plains, and depressions

Position on the landform: Toeslopes

Map Unit Composition

Thorp and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that have sandy and gravelly deposits in the lower part of the profile
- Soils that contain carbonates at a depth of less than 40 inches
- Soils that have till in the lower part of the profile
- Soils that have a thinner surface layer
- Soils that have a darker colored subsurface layer

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits
- The very poorly drained Peotone soils on toeslopes

Properties and Qualities of the Thorp Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
(January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

392A—Urban land-Orthents, loamy, complex, nearly level

Setting

Landform: Lake plains and ground moraines

Position on the landform: Summits

Map Unit Composition

Urban land: 70 percent

Orthents and similar soils: 20 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have more silt and less sand throughout the profile
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The moderately well drained, clayey Orthents, which are very shallow or shallow to densic material; on summits
- The well drained, loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Urban land—8; Orthents—2s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

392B—Urban land-Orthents, loamy, complex, gently sloping

Setting

Landform: Outwash plains, ground moraines, and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Urban land: 65 percent

Orthents and similar soils: 25 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have more silt and less sand throughout the profile
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of less than 2 percent or more than 6 percent

Dissimilar components:

- The moderately well drained, clayey Orthents, which are very shallow or shallow to densic material; on summits and backslopes
- The well drained, loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits and backslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Urban land—8; Orthents—3e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

533—Urban land

This map unit consists of areas in which 85 percent or more of the surface is covered by pavement and buildings. Because of extensive land smoothing, the areas are generally nearly level or gently sloping. Minor components include open areas of the well drained Orthents, loamy and Orthents, loamy-skeletal and the moderately well drained Orthents, clayey. These soils are manmade and are on summits.

534A—Urban land-Orthents, clayey, complex, nearly level

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits

Map Unit Composition

Urban land: 70 percent

Orthents and similar soils: 23 percent

Dissimilar components: 7 percent

Components of Minor Extent

Similar soils:

- Soils that have more sand or silt and less clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates at or near the surface
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The poorly drained, clayey Aquents, which are manmade; on toeslopes
- The well drained, loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 4 to 12 inches to densic material

Available water capacity: About 4.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Urban land—8; Orthents—4s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

534B—Urban land-Orthents, clayey, complex, gently sloping

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Urban land: 70 percent

Orthents and similar soils: 23 percent

Dissimilar components: 7 percent

Components of Minor Extent

Similar soils:

- Soils that have more sand or silt and less clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates at or near the surface
- Soils that have slopes of less than 2 percent more than 6 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The poorly drained Aquents, clayey soils, which are manmade; on toeslopes
- The well drained loamy-skeletal Orthents, which have more than 35 percent rock fragments; on summits and backslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Very slow

Depth to restrictive feature: 4 to 10 inches to densic material

Available water capacity: About 4.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Very high

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Urban land—8; Orthents—4s

Prime farmland category: None assigned

Hydric soil status: Not hydric

2023B—Alfic Udarents, clayey-Urban land-Blount complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits and backslopes; Blount—backslopes and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Blount and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 3.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Blount Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 8 to 16 inches to an abrupt textural change; 30 to 48 inches to densic material

Available water capacity: About 7.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Blount—2e; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Blount—not hydric; Urban land—not applicable

2049A—Orthents, loamy-Urban land-Watseka complex, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Orthents—summits; Watseka—summits and footslopes

Map Unit Composition

Orthents and similar soils: 42 percent

Urban land: 38 percent

Watseka and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that contain less sand and more silt or clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of 2.0 to 3.5 feet
- Soils that have carbonates near the surface
- Soils that have slopes of more than 2 percent
- Soils that contain more gravel in the lower half of the profile

Dissimilar components:

- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 6.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Watseka Soil

Parent material: Eolian deposits and/or outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Rapid

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 5.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.5 percent

Shrink-swell potential: Low

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Low

Hazard of corrosion: High for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: Orthents—2s; Urban land—8; Watseka—3s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

2223B—Alfic Udarents, clayey-Urban land-Varna complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Varna and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 48 to 66 inches to densic material
Available water capacity: About 6.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 4.0 percent
Shrink-swell potential: High
Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to densic material
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Varna—2e; Urban land—8
Prime farmland category: Not prime farmland
Hydric soil status: Alfic Udarents and Varna—not hydric; Urban land—not applicable

2232A—Orthents, clayey-Urban land-Ashkum complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Orthents—summits; Ashkum—toeslopes

Map Unit Composition

Orthents and similar soils: 45 percent
Urban land: 40 percent
Ashkum and similar soils: 15 percent

Components of Minor Extent

Similar soils:

- Soils that have more sand or silt and less clay in the profile
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have carbonates near the surface
- Soils that have slopes of more than 2 percent

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Very slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: 4 to 12 inches to densic material

Available water capacity: About 6.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 3.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Ashkum Soil

Parent material: Colluvium and the underlying till

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 7.0 percent

Shrink-swell potential: High

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Orthents—4s; Urban land—8; Ashkum—2w

Prime farmland category: Not prime farmland

Hydric soil status: Orthents—not hydric; Urban land—not applicable; Ashkum—hydric

Hydric criteria code: 2B3

2530B—Alfic Udarents, clayey-Urban land-Ozaukee complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Ozaukee and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 3.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Ozaukee—2e; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Ozaukee—not hydric; Urban land—not applicable

2530D—Alfic Udarents, clayey-Urban land-Ozaukee complex, 6 to 12 percent slopes

Setting

Landform: Ground moraines, end moraines, and lake plains

Position on the landform: Backslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Ozaukee and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 6 percent or more than 12 percent

Dissimilar components:

- The nearly level, somewhat poorly drained Blount soils on summits and footslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 3.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: High

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents—4e; Urban land—8; Ozaukee—3e

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Ozaukee—not hydric; Urban land—not applicable

2571A—Orthents, loamy-Urban land-Whitaker complex, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Orthents—summits; Whitaker—summits and footslopes

Map Unit Composition

Orthents and similar soils: 42 percent

Urban land: 38 percent

Whitaker and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have more silt and less sand throughout the profile
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table beginning at a depth of 2.0 to 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Whitaker Soil

Parent material: Loamy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Orthents—2s; Urban land—8; Whitaker—2w
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

2740A—Orthents, loamy-Urban land-Darroch complex, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on the landform: Summits

Map Unit Composition

Orthents and similar soils: 42 percent
Urban land: 38 percent
Darroch and similar soils: 15 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar componentss:

- Soils that have more silt and less sand
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table beginning at a depth of 2.0 to 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Darroch Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.5 to 4.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Orthents—2s; Urban land—8; Darroch—1
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

2800A—Urban land-Psamments complex, nearly level

Setting

Landform: Lake plains and beach ridges
Position on the landform: Summits

Map Unit Composition

Urban land: 65 percent
Psamments and similar soils: 30 percent
Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet
- Soils that contain more clay and less sand in the substratum
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The somewhat poorly drained Watseka soils on summits and footslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Psamments

Parent material: Earthy fill
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 3.0 percent
Shrink-swell potential: Low
Potential for frost action: Low
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Urban land—8; Psamments—4s
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

2800B—Urban land-Psamments complex, gently sloping

Setting

Landform: Lake plains and beach ridges

Position on the landform: Summits

Map Unit Composition

Urban land: 65 percent

Psamments and similar soils: 30 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet
- Soils that contain more clay and less sand in the substratum
- Soils that have slopes of less than 2 percent or more than 6 percent

Dissimilar components:

- The somewhat poorly drained Watseka soils on summits and footslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Psamments

Parent material: Earthy fill

Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 4.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 3.0 percent

Shrink-swell potential: Low

Potential for frost action: Low

Hazard of corrosion: Low for steel and moderate for concrete

Surface runoff class: Very low

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Urban land—8; Psamments—4s

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

2811A—Urban land-Alfic Udarents, clayey, complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits

Map Unit Composition

Urban land: 65 percent

Alfic Udarents and similar soils: 30 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that formed under natural conditions
- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Urban land—8; Alfic Udarents—2s

Prime farmland category: Not prime farmland

Hydric soil status: Urban land—not applicable; Alfic Udarents—not hydric

2811B—Urban land-Alfic Udarents, clayey, complex, 2 to 6 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Urban land: 65 percent

Alfic Udarents and similar soils: 30 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that formed under natural conditions
- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 6 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: Urban land—8; Alfic Udarents—3e

Prime farmland category: Not prime farmland

Hydric soil status: Urban land—not applicable; Alfic Udarents—not hydric

2822A—Alfic Udarents, clayey-Urban land-Elliott complex, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits; Elliott—summits and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Elliott and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Elliott—2s; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Elliott—not hydric; Urban land—not applicable

2822B—Alfic Udarents, clayey-Urban land-Elliott complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Alfic Udarents—summits and backslopes; Elliott—backslopes and footslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Elliott and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 5.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 2.5 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 20 to 45 inches to densic material

Available water capacity: About 7.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.5 to 5.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Elliot—2e; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Elliot—not hydric; Urban land—not applicable

Varna Series

Drainage class: Moderately well drained

Landform: Ground moraines and end moraines

Parent material: Thin mantle of loess or other silty material and the underlying till

Slope range: 2 to 6 percent

Taxonomic classification: Fine, illitic, mesic Oxyaquic Argiudolls

Typical Pedon

Varna silt loam, 2 to 4 percent slopes (fig. 14); at an elevation of 722 feet; 35 feet north and 860 feet east of the southwest corner of section 6, T. 29 N., R. 11 E.; Kankakee County, Illinois; USGS Herscher topographic quadrangle; lat. 41 degrees 00 minutes 53 seconds N. and long. 88 degrees 00 minutes 49 seconds W., NAD 27; UTM Zone 16T, 0414761 Easting and 4540891 Northing, NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.

A—8 to 12 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; slightly acid; clear smooth boundary.

2Bt1—12 to 18 inches; brown (10YR 4/3) silty clay loam; moderate very fine subangular blocky structure; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; 5 percent fine gravel; moderately acid; clear smooth boundary.

2Bt2—18 to 24 inches; dark yellowish brown (10YR 4/4) silty clay; weak fine prismatic structure parting to moderate very fine and fine subangular blocky; firm; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 5 percent fine gravel; moderately acid; clear smooth boundary.

2Bt3—24 to 30 inches; light olive brown (2.5Y 5/4) silty clay; weak fine prismatic structure parting to moderate fine angular and subangular blocky; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 5 percent fine gravel; neutral; clear wavy boundary.

2Bt4—30 to 42 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular and subangular blocky; firm; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; 5 percent fine gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.

2BCt—42 to 48 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular and angular blocky; firm; few distinct dark grayish brown (10YR 4/2)



Figure 14—A profile of Varna silt loam, 2 to 4 percent slopes, on the Tinley Moraine.
This moderately well drained soil formed in fine textured till.

clay films on vertical faces of peds; 2 percent fine gravel; slightly effervescent; moderately alkaline; gradual wavy boundary.

2Cd—48 to 60 inches; 90 percent yellowish brown (10YR 5/4 and 5/6) and 10 percent gray (5Y 5/1) silty clay loam; massive; very firm; 5 percent fine gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: 7 to 16 inches

Thickness of the loess or other silty material: Less than 18 inches

Depth to carbonates: 24 to 42 inches

Depth to densic material: 24 to 60 inches

Depth to the base of soil development: 24 to 60 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

2Bt horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam, silty clay, or clay

Content of rock fragments—less than 10 percent

2BC or 2Cd horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam or clay loam

Content of rock fragments—less than 10 percent

The Varna soils in map unit 223C2 are considered a taxadjunct to the series because they have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use or management of the soils. These soils are classified as fine, illitic, mesic Mollic Oxyaquic Hapludalfs.

223B—Varna silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines

Position on the landform: Summits and backslopes

Map Unit Composition

Varna and similar soils: 90 percent

Dissimilar components: 10 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that contain more sand in the upper half of the profile
- Soils that contain less clay and more silt in the subsoil
- Soils with slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes
- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to densic material
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

223C2—Varna silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Varna and similar soils: 96 percent
Dissimilar components: 4 percent

Components of Minor Extent

Similar soils:

- Soils that are slightly eroded
- Soils that have a lighter colored surface soil
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that contain less clay and more sand or silt in the subsoil

Dissimilar components:

- The moderately well drained, clayey Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to densic material
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

2223B—Alfic Udarents, clayey-Urban land-Varna complex, 2 to 4 percent slopes

Setting

Landform: Ground moraines and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Alfic Udarents and similar soils: 42 percent

Urban land: 38 percent

Varna and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that do not have remnant fragments of natural soils
- Soils that have less clay and more sand or silt in the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Alfic Udarents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 48 to 66 inches to densic material

Available water capacity: About 6.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent

Shrink-swell potential: High

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: High

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Moderate

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures.

Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: 24 to 60 inches to densic material

Available water capacity: About 8.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.5 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Alfic Udarents and Varna—2e; Urban land—8

Prime farmland category: Not prime farmland

Hydric soil status: Alfic Udarents and Varna—not hydric; Urban land—not applicable

Warsaw Series

Drainage class: Well drained

Landform: Outwash plains and stream terraces

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, with or without a thin mantle of loess or other silty material

Slope range: 2 to 4 percent

Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Warsaw silt loam, 0 to 2 percent slopes; at an elevation of 535 feet; 1,800 feet south and 620 feet west of the northeast corner of section 9, T. 33 N., R. 9 E.; Will County, Illinois; USGS Wilmington topographic quadrangle; lat. 41 degrees 21 minutes 27 seconds N. and long. 88 degrees 11 minutes 39 seconds W., NAD 27; UTM Zone 16T, 0400107 Easting and 4579132 Northing, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many very fine roots; 2 percent gravel; slightly acid; clear smooth boundary.

A—7 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; friable; many very fine roots; common distinct black (10YR 2/1) organic coatings on faces of peds; 2 percent gravel; slightly acid; clear smooth boundary.

2BA—11 to 17 inches; brown (10YR 4/3) loam; moderate fine subangular blocky structure; friable; many very fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; 5 percent gravel; moderately acid; clear smooth boundary.

2Bt1—17 to 28 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; many

distinct brown (10YR 4/3) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; 5 percent gravel; moderately acid; clear wavy boundary.

3Bt2—28 to 32 inches; dark yellowish brown (10YR 4/4) gravelly sandy clay loam; weak fine and medium subangular blocky structure; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; 20 percent gravel; neutral; clear wavy boundary.

3C1—32 to 44 inches; yellowish brown (10YR 5/4) gravelly loamy sand; massive; very friable; few very fine roots; 20 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

3C2—44 to 80 inches; light yellowish brown (10YR 6/4) very gravelly sand; single grain; loose; 40 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to sandy and gravelly glaciofluvial deposits: 24 to 40 inches

Depth to carbonates: 24 to 40 inches

Depth to the base of soil development: 24 to 40 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

2BA, 2Bt, or 3Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—clay loam, loam, or sandy clay loam or the gravelly analogs of these textures

Content of rock fragments—less than 25 percent

3C horizon:

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—3 to 6

Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand, loamy sand, coarse sand, or loamy coarse sand

Content of rock fragments—15 to 78 percent

290B—Warsaw silt loam, 2 to 4 percent slopes

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Summits and backslopes

Map Unit Composition

Warsaw and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that are moderately eroded

- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet
- Soils that have sandy and gravelly deposits beginning at a depth of less than 24 inches or more than 40 inches
- Soils that have carbonates at a depth of less than 24 inches

Dissimilar components:

- The somewhat poorly drained Kane soils on summits and footslopes
- Areas of urban land

Properties and Qualities of the Warsaw Soil

Parent material: Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification

Available water capacity: About 6.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.5 to 4.0 percent

Shrink-swell potential: Moderate

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

W—Water

This map unit includes natural bodies of water, such as perennial lakes, ponds, rivers, and streams.

Watseka Series

Drainage class: Somewhat poorly drained

Landform: Outwash plains, stream terraces, lake plains, and beach ridges

Parent material: Eolian deposits and/or outwash

Slope range: 0 to 2 percent

Taxonomic classification: Sandy, mixed, mesic Aquic Hapludolls

Typical Pedon

Watseka loamy fine sand, 0 to 2 percent slopes; at an elevation of 653 feet; 450 feet south and 55 feet west of the northeast corner of section 6, T. 30 N., R. 10 W.; Kankakee County, Illinois; Leesville topographic quadrangle; lat. 41 degrees 07 minutes 12.6 seconds N. and long. 87 degrees 31 minutes 36.4 seconds W., NAD 27; UTM Zone 16T, 0455774 Easting and 4552235 Northing, NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) loamy fine sand, dark gray (10YR 4/1) dry; weak medium granular structure; very friable; neutral; abrupt smooth boundary.

A—8 to 10 inches; very dark gray (10YR 3/1) loamy fine sand, gray (10YR 5/1) dry; weak medium granular structure; very friable; slightly acid; clear smooth boundary.

Bw1—10 to 24 inches; dark grayish brown (10YR 4/2) sand; weak coarse subangular blocky structure; very friable; common faint dark gray (10YR 4/1) coatings on faces of peds; common medium distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; slightly acid; gradual irregular boundary.

Bw2—24 to 32 inches; light brownish gray (10YR 6/2) fine sand; weak coarse subangular blocky structure; very friable; common coarse faint dark gray (10YR 4/1) and distinct very dark gray (10YR 3/1) masses of oxidized iron-manganese throughout; moderately acid; clear wavy boundary.

C—32 to 60 inches; light gray (10YR 7/2) fine sand; single grain; loose; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to carbonates: More than 50 inches

Depth to the base of soil development: 24 to 40 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—loamy fine sand

Bw or Bg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 to 4

Texture—loamy fine sand, fine sand, or sand

Content of rock fragments—less than 10 percent

C or Cg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 to 4

Texture—loamy fine sand, fine sand, or sand

Content of rock fragments—less than 10 percent

49A—Watseka loamy fine sand, 0 to 2 percent slopes

Setting

Landform: Stream terraces, outwash plains, lake plains, and beach ridges

Position on the landform: Summits and footslopes

Map Unit Composition

Watseka and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a lighter colored or thinner surface layer
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet
- Soils that contain more than 10 percent gravel in the lower part of the profile
- Soils that contain less sand and more clay in the upper part of the subsoil

Dissimilar components:

- The poorly drained Gilford and similar soils on toeslopes

- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Watseka Soil

Parent material: Eolian deposits and/or outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Rapid

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 5.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.5 percent

Shrink-swell potential: Low

Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Low

Hazard of corrosion: High for steel and concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 3s

Prime farmland category: Farmland of statewide importance

Hydric soil status: Not hydric

2049A—Orthents, loamy-Urban land-Watseka complex, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Orthents—summits; Watseka—summits and footslopes

Map Unit Composition

Orthents and similar soils: 42 percent

Urban land: 38 percent

Watseka and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that contain less sand and more silt or clay throughout the profile
- Soils that have a seasonal high water table beginning at a depth of 2.0 to 3.5 feet
- Soils that have carbonates near the surface
- Soils that have slopes of more than 2 percent
- Soils that contain more gravel in the lower half of the profile

Dissimilar components:

- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Watseka Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 1 to 2 feet below the surface (January through May)
Potential for frost action: Low
Hazard of corrosion: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: Orthents—2s; Urban land—8; Watseka—3s
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Wauconda Series

Drainage class: Somewhat poorly drained
Permeability: Moderate
Landform: Outwash plains, stream terraces, and lake plains
Parent material: Loess or other silty material and the underlying outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs

Typical Pedon

Wauconda silt loam, 0 to 2 percent slopes; at an elevation of 778 feet; 1,845 feet north and 2,500 feet west of the southeast corner of section 13, T. 45 N., R. 10 E.; Lake County, Illinois; USGS Antioch topographic quadrangle; lat. 42 degrees 22 minutes

Soil Survey of Cook County, Illinois

35.5 seconds N. and long. 88 degrees 00 minutes 48.1 seconds W., NAD 27; UTM Zone 16T, 0416566 Easting and 4692082 Northing, NAD 83:

- Ap—0 to 9 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure parting to weak medium granular; friable; common very fine roots; neutral; clear smooth boundary.
- E—9 to 14 inches; dark gray (2.5Y 4/1) silt loam; weak fine and medium subangular blocky structure parting to moderate fine and medium granular; friable; common very fine roots; few distinct black (10YR 2/1) organic coatings on faces of peds; neutral; clear smooth boundary.
- Bt1—14 to 23 inches; brown (10YR 4/2) silty clay loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films and dark grayish brown (2.5Y 4/2) clay films on faces of peds; common fine and medium faint olive brown (2.5Y 4/4) masses of oxidized iron-manganese in the matrix; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; neutral; clear smooth boundary.
- Bt2—23 to 30 inches; light olive brown (2.5Y 5/3) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; few distinct olive brown (2.5Y 4/3) clay films on faces of peds; common fine black (2.5Y 2.5/1) very weakly cemented iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common fine and medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2BC—30 to 38 inches; light olive brown (2.5Y 5/3) stratified sandy loam and silt loam; weak medium subangular blocky structure; very friable; common fine black (2.5Y 2.5/1) very weakly cemented iron-manganese concretions throughout; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 10 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2C1—38 to 41 inches; light olive brown (2.5Y 5/4) loamy coarse sand; single grain; loose; 13 percent gravel; strongly effervescent; moderately alkaline; abrupt smooth boundary.
- 2C2—41 to 60 inches; brown (10YR 5/3) stratified silt loam and sandy loam; massive; firm; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; 2 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: 20 to 40 inches

Depth to carbonates: 20 to 40 inches

Depth to base of soil development: 24 to 45 inches

Ap horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

E horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

Bt horizon:

Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—silty clay loam or silt loam

2Bt or 2BC horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—silt loam, loam, sandy loam, or fine sandy loam
Content of gravel—less than 10 percent

2C horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified silt loam to loamy sand
Content of rock fragments—less than 15 percent

697A—Wauconda silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, stream terraces, and lake plains

Position on the landform: Summits and footslopes

Map Unit Composition

Wauconda and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain loamy outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that contain carbonates beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have till or lacustrine deposits in the lower part of the profile
- Soils that have a darker colored subsurface layer
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- The poorly drained Drummer and Pella soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Wauconda Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Not hydric

Waupecan Series

Drainage class: Well drained

Permeability: Moderate in the upper part of the profile and very rapid in the lower part

Landform: Outwash plains and stream terraces

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash

Slope range: 2 to 4 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Waupecan silt loam, 2 to 4 percent slopes; at an elevation of 775 feet; 2,060 feet south and 610 feet west of the northeast corner of section 20, T. 40 N., R. 9 E.; Du Page County, Illinois; USGS West Chicago topographic quadrangle; lat. 41 degrees 56 minutes 16 seconds N. and long. 88 degrees 13 minutes 31 seconds W., NAD 27; UTM Zone 16T, 0398420 Easting and 4643597 Northing, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate very fine and fine granular structure; friable; common very fine roots; slightly acid; clear smooth boundary.

A—7 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to moderate very fine and fine granular; friable; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bt1—11 to 14 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—14 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common distinct dark brown (10YR 3/3) organo-clay films and many distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; gradual smooth boundary.

Bt3—24 to 35 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common distinct dark brown (10YR 3/3) organo-clay films and brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt4—35 to 39 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine and fine roots;

many distinct very dark grayish brown (10YR 3/2) organo-clay films and few distinct brown (10YR 4/3) clay films on faces of peds; 2 percent gravel; neutral; clear wavy boundary.

2BCt—39 to 45 inches; brown (10YR 4/3) gravelly loam; weak medium subangular blocky structure; friable; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds; 25 percent gravel and 5 percent cobbles; slightly effervescent; slightly alkaline; gradual wavy boundary.

3C—45 to 60 inches; dark yellowish brown (10YR 4/4) very gravelly loamy sand; single grain; loose; 45 percent gravel and 10 percent cobbles; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or other silty material: 24 to 48 inches

Depth to sandy and gravelly outwash: 40 to 60 inches

Depth to carbonates: 24 to 48 inches

Depth to the base of soil development: 40 to 72 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

Bt horizon:

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam or silt loam

2BCt horizon:

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 to 6

Texture—clay loam, sandy clay loam, loam, sandy loam, or loamy sand or the gravelly analogs of these textures

Content of rock fragments—4 to 35 percent

3C horizon:

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—3 to 6

Texture—gravelly loamy sand to extremely gravelly coarse sand

Content of rock fragments—20 to 85 percent

369B—Waupecan silt loam, 2 to 4 percent slopes

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Summits and backslopes

Map Unit Composition

Waupecan and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface layer
- Soils that have sandy and gravelly deposits beginning at a depth of less than 40 inches or more than 60 inches
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a seasonal high water table beginning at a depth of 3.5 to 6.0 feet

Dissimilar components:

- The somewhat poorly drained Grundelein soils on summits and footslopes
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Waupecan Soil

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification

Available water capacity: About 8.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Moderate

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Wesley Series

Drainage class: Somewhat poorly drained

Permeability: Moderately rapid in the upper part of the profile; slow in the lower part

Landform: Glacial lakes (relict) and ground moraines

Parent material: Coarse textured outwash over lacustrine deposits and/or till

Slope range: 0 to 2 percent

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Aquic Hapludolls

Typical Pedon

Wesley fine sandy loam, 0 to 2 percent slopes; at an elevation of 623 feet; 1,000 feet west and 270 feet north of the southeast corner of section 14, T. 30 N., R. 8 E.; Livingston County, Illinois; USGS Campus topographic quadrangle; lat. 41 degrees 04 minutes 04 seconds N. and long. 88 degrees 16 minutes 22 seconds W., NAD 27; UTM Zone 16T, 0393066 Easting and 4547059 Northing, NAD 83:

Ap—0 to 10 inches; black (10YR 2/1) fine sandy loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

AB—10 to 13 inches; very dark grayish brown (10YR 3/2) fine sandy loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; friable; few very

- fine roots; common distinct black (10YR 2/1) organic coatings on faces of peds; neutral; clear smooth boundary.
- Bt1—13 to 18 inches; brown (10YR 4/3) fine sandy loam; weak fine subangular blocky structure; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt2—18 to 27 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine prismatic structure parting to weak fine angular blocky; friable; few very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; few fine black (10YR 2/1) iron-manganese concretions throughout; few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt3—27 to 30 inches; yellowish brown (10YR 5/6) loamy fine sand; weak fine prismatic structure parting to weak fine angular blocky; very friable; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (10YR 2/1) iron-manganese concretions throughout; common fine prominent grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bw—30 to 38 inches; brown (10YR 5/3) loamy fine sand; weak fine subangular blocky structure; very friable; few fine black (10YR 2/1) iron-manganese concretions throughout; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 5 percent gravel; very slightly effervescent; slightly alkaline; clear smooth boundary.
- 2BCg—38 to 43 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure; firm; few fine black (10YR 2/1) iron-manganese concretions throughout; common medium prominent yellowish brown (10YR 5/6) and many medium distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; 5 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2Cg—43 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; few fine black (10YR 2/1) iron-manganese concretions throughout; common medium prominent yellowish brown (10YR 5/6) and many medium distinct light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; 6 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to till: 20 to 40 inches

Depth to carbonates: 24 to 50 inches

Depth to the base of soil development: 33 to 53 inches

Ap, A, or AB horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—fine sandy loam

Bt or Bw horizon:

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 to 6

Texture—fine sandy loam or loamy fine sand

2BC or 2C horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 4

Texture—silty clay loam or clay loam

Content of rock fragments—less than 5 percent

141A—Wesley fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Glacial lakes (relict) and ground moraines

Position on the landform: Summits

Map Unit Composition

Wesley and similar soils: 91 percent

Dissimilar components: 9 percent

Components of Minor Extent

Similar soils:

- Soils that have a thinner surface layer
- Soils that contain more or less sand in the surface layer
- Soils that contain more clay throughout the profile

Dissimilar components:

- The poorly drained Milford soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Wesley Soil

Parent material: Coarse textured outwash over lacustrine deposits and/or till

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow

Depth to restrictive feature: More than 80 inches

Available water capacity: About 7.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 3.0 to 4.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 1 to 2 feet below the surface (January through May)

Potential for frost action: Moderate

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

Whitaker Series

Drainage class: Somewhat poorly drained

Landform: Lake plains, outwash plains, and stream terraces

Parent material: Loamy outwash

Slope range: 0 to 2 percent

Taxonomic classification: Fine-loamy, mixed, active, mesic Aeric Endoaqualfs

Typical Pedon

Whitaker loam, 0 to 2 percent slopes; at an elevation of 655 feet; 1,960 feet south and 850 feet west of the northeast corner of section 36, T. 19 N., R. 11 W.; Vermilion County, Illinois; lat. 40 degrees 04 minutes 07 seconds N. and long. 87 degrees 32 minutes 50 seconds W., NAD 27; UTM Zone 16T, 0453326 Easting and 4435530 Northing, NAD 83:

- Ap—0 to 10 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; weak very fine granular structure; friable; neutral; abrupt smooth boundary.
- BE—10 to 14 inches; dark grayish brown (10YR 4/2) loam; moderate fine subangular blocky structure; friable; many distinct grayish brown (10YR 5/2) (dry) silt coatings on faces of peds; common fine rounded iron-manganese concretions throughout; common fine prominent yellowish brown (10YR 5/6) and distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.
- Btg—14 to 22 inches; grayish brown (10YR 5/2) clay loam; moderate fine subangular blocky structure; friable; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine rounded iron-manganese concretions throughout; many fine distinct yellowish brown (10YR 5/4) and common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.
- Bt1—22 to 34 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; friable; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium irregular masses of oxidized iron and manganese throughout; many fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; many fine distinct dark yellowish brown (10YR 4/6) masses of oxidized iron in the matrix; moderately acid; gradual smooth boundary.
- Bt2—34 to 47 inches; yellowish brown (10YR 5/4) stratified clay loam, loam, and sandy loam; moderate medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium irregular masses of oxidized iron-manganese throughout; many fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; slightly acid; gradual smooth boundary.
- BCt—47 to 54 inches; yellowish brown (10YR 5/4) stratified sandy loam, loamy sand, and loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium irregular masses of oxidized iron-manganese throughout; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; many fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; diffuse smooth boundary.
- C—54 to 60 inches; dark yellowish brown (10YR 4/4) stratified sandy loam, loamy sand, and loam; massive; friable; common medium irregular masses of oxidized iron-manganese throughout; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; many fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; neutral.

Range in Characteristics

Depth to the base of soil development: 40 to 60 inches

Ap or A horizon:

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—loam

E or BE horizon:

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—loam

Bt or Btg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

Texture—clay loam, loam, sandy clay loam, or sandy loam

Content of rock fragments—less than 3 percent

BC or BCg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—loam or sandy loam

Content of rock fragments—less than 7 percent

C or Cg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—loamy sand, sandy loam, or loam

Content of rock fragments—less than 15 percent

571A—Whitaker loam, 0 to 2 percent slopes

Setting

Landform: Lake plains, stream terraces, and outwash plains

Position on the landform: Summits and footslopes

Map Unit Composition

Whitaker and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a darker surface layer
- Soils that have less sand and more silt in the upper half of the profile
- Soils that have more gravel in the lower part of the profile
- Soils that have a seasonal high water table beginning at a depth of more than 2 feet

Dissimilar components:

- The poorly drained Selma soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Whitaker Soil

Parent material: Loamy outwash

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.6 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

2571A—Orthents, loamy-Urban land-Whitaker complex, 0 to 2 percent slopes

Setting

Landform: Lake plains

Position on the landform: Orthents—summits; Whitaker—summits and footslopes

Map Unit Composition

Orthents and similar soils: 42 percent

Urban land: 38 percent

Whitaker and similar soils: 15 percent

Dissimilar components: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have more silt and less sand throughout the profile
- Soils that have more gravel in the lower half of the profile
- Soils that have a seasonal high water table beginning at a depth of 2.0 to 3.5 feet
- Soils that have more sand and less clay throughout the profile
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Orthents

Parent material: Earthy fill

Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent

Shrink-swell potential: Moderate

Perched seasonal high water table: 3.5 to 5.0 feet below the surface (February through April)

Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and concrete

Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Description of Urban Land

Urban land occurs as areas of land covered by pavement, buildings, storage tanks, bridges, and other impervious, human-manufactured surfaces and structures. Pavement is a hard layered surface of concrete or asphalt that forms a walkway, road, street, highway lane, runway, parking lot, or similar paved area.

Properties and Qualities of the Whitaker Soil

Parent material: Loamy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface (January through May)
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Orthents—2s; Urban land—8; Whitaker—2w
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Will Series

Drainage class: Poorly drained
Landform: Outwash plains and stream terraces
Parent material: Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Will silty clay loam, 0 to 2 percent slopes; at an elevation of 605 feet; 2,260 feet south and 1,660 feet west of the northeast corner of section 14, T. 35 N., R. 9 E.; Will County, Illinois; USGS Plainfield topographic quadrangle; lat. 41 degrees 36 minutes 10 seconds N. and long. 88 degrees 10 minutes 09 seconds W., NAD 27; UTM Zone 16T, 0402563 Easting and 4606331 Northing, NAD 83:

- Ap—0 to 6 inches; black (N 2.5/) silty clay loam, very dark gray (10YR 3/1) dry; weak medium and coarse granular structure; friable; common very fine and fine roots; 2 percent gravel; neutral; gradual wavy boundary.
- A1—6 to 11 inches; black (N 2.5/) silty clay loam, very dark gray (10YR 3/1) dry; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; 2 percent gravel; neutral; gradual wavy boundary.

- A2—11 to 16 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure; friable; common very fine and fine roots; few fine olive yellow (2.5Y 6/6) weakly cemented iron-manganese oxide nodules throughout; 5 percent gravel; slightly alkaline; gradual smooth boundary.
- 2Bg—16 to 20 inches; dark grayish brown (2.5Y 4/2) loam; moderate medium subangular blocky structure; friable; common prominent black (10YR 2/1) organic coatings on faces of peds and in pores; few fine yellowish brown (10YR 5/6) weakly cemented iron-manganese oxide nodules throughout; 5 percent gravel; slightly alkaline; gradual wavy boundary.
- 2BCg—20 to 24 inches; 60 percent dark gray (2.5Y 4/1) and 40 percent dark grayish brown (2.5Y 4/2) loam; weak medium and coarse subangular blocky structure; friable; common distinct black (10YR 2/1) organic coatings on vertical faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium pale yellow (2.5Y 7/3) carbonate concretions throughout; 9 percent gravel; very slightly effervescent; moderately alkaline; clear smooth boundary.
- 3Cg—24 to 60 inches; dark gray (2.5Y 4/1) gravelly loamy sand; single grain; loose; common coarse pale yellow (2.5Y 7/3) carbonate concretions throughout; 30 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to sandy and gravelly glaciofluvial deposits: 20 to 40 inches

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 24 to 40 inches

Ap or A horizon:

Hue—10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—silty clay loam

Bg or 2Bg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—clay loam, loam, or silty clay loam

Content of rock fragments—less than 15 percent

3Cg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 8

Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand, loamy sand, coarse sand, or loamy coarse sand

Content of rock fragments—20 to 70 percent

329A—Will silty clay loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces

Position on the landform: Toeslopes

Map Unit Composition

Will and similar soils: 94 percent

Dissimilar components: 6 percent

Components of Minor Extent

Similar soils:

- Soils that have sandy and gravelly deposits beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have a thicker, darker colored surface soil
- Soils that contain less sand and more silt in the upper half of the profile
- Soils that do not have a subsurface layer

Dissimilar components:

- The very poorly drained, organic Houghton soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Will Soil

Parent material: Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Very rapid

Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification

Available water capacity: About 5.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface (January through May)

Ponding: At the surface to 0.5 foot above the surface (January through May)

Potential for frost action: High

Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w

Prime farmland category: Prime farmland where drained

Hydric soil status: Hydric

Hydric criteria code: 2B3

Zurich Series

Drainage class: Moderately well drained

Permeability: Moderate

Landform: Outwash plains, stream terraces, and lake plains

Parent material: Loess or other silty material and the underlying outwash

Slope range: 0 to 12 percent

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

Typical Pedon

Zurich silt loam, 2 to 4 percent slopes; at an elevation of 640 feet; 300 feet north and 2,260 feet east of the southwest corner of section 23, T. 43 N., R. 11 E.; Lake County, Illinois; USGS Wheeling topographic quadrangle; lat. 42 degrees 10 minutes 59 seconds N. and long. 87 degrees 55 minutes 03 seconds W., NAD 27; UTM Zone 16T, 0424231 Easting and 4670509 Northing, NAD 83:

Soil Survey of Cook County, Illinois

- A—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine and fine roots; neutral; clear smooth boundary.
- E—5 to 9 inches; 60 percent dark grayish brown (10YR 4/2) and 40 percent brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; few very fine and fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.
- E/Bt—9 to 16 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure; friable; few very fine and fine roots; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; few distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt1—16 to 23 inches; brown (7.5YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; few very fine roots; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; many distinct brown (7.5YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—23 to 28 inches; brown (7.5YR 4/4) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; common distinct brown (7.5YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.
- 2Bt3—28 to 31 inches; brown (7.5YR 4/3) loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct brown (7.5YR 4/2) clay films on faces of peds; common medium faint grayish brown (10YR 5/2) and distinct light brownish gray (10YR 6/2) iron depletions in the matrix; very slightly effervescent; slightly alkaline; clear smooth boundary.
- 2BC—31 to 38 inches; yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common faint brown (7.5YR 4/4) masses of oxidized iron-manganese in the matrix; many medium coarse distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly effervescent; moderately alkaline; gradual smooth boundary.
- 2C—38 to 64 inches; 70 percent yellowish brown (10YR 5/4 and 5/6) and 30 percent light brownish gray (10YR 6/2) stratified silt loam and very fine sandy loam; massive; friable; common fine black (10YR 2/1) very weakly cemented iron-manganese concretions throughout; few fine and medium white (10YR 8/1) carbonate concretions throughout; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: 20 to 40 inches

Depth to carbonates: 20 to 40 inches

Depth to the base of soil development: 24 to 45 inches

Ap or A horizon:

Hue—10YR

Value—3 or 4

Chroma—1 to 3

Texture—silt loam

E horizon:

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—silt loam

Bt horizon:

Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam or silt loam

2Bt or 2BC horizon:

Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam, loam, sandy loam, or fine sandy loam
Content of rock fragments—less than 7 percent

2C horizon:

Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 8
Texture—stratified silt loam to loamy sand
Content of rock fragments—less than 15 percent

696A—Zurich silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains, stream terraces, and lake plains

Position on the landform: Summits

Map Unit Composition

Zurich and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a thicker, darker surface layer
- Soils that contain carbonates beginning at a depth of less than 20 inches or more than 40 inches
- Soils that contain lacustrine deposits or till in the lower part of the profile
- Soils that have outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The poorly drained Drummer and Pella soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits
- Areas of urban land

Properties and Qualities of the Zurich Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Low

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

696B—Zurich silt loam, 2 to 4 percent slopes

Setting

Landform: Outwash plains, stream terraces, and lake plains

Position on the landform: Summits and backslopes

Map Unit Composition

Zurich and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that have a thicker, darker surface layer
- Soils that contain carbonates beginning at a depth of less than 20 inches or more than 40 inches
- Soils that contain lacustrine deposits or till in the lower part of the profile
- Soils that have outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar components:

- The poorly drained Drummer and Pella soils on toeslopes
- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Zurich Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e

Prime farmland category: Prime farmland

Hydric soil status: Not hydric

696C2—Zurich silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: Outwash plains, stream terraces, and lake plains

Position on the landform: Backslopes and shoulders

Map Unit Composition

Zurich and similar soils: 96 percent

Dissimilar components: 4 percent

Components of Minor Extent

Similar soils:

- Soils that contain carbonates beginning at a depth of less than 20 inches or more than 40 inches
- Soils that contain lacustrine deposits or till in the lower part of the profile
- Soils that contain loamy outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table beginning at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that are slightly eroded

Dissimilar components:

- The well drained, loamy Orthents, which are manmade; on summits and backslopes
- Areas of urban land

Properties and Qualities of the Zurich Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Medium

Susceptibility to water erosion: Moderate

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

696D2—Zurich silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Outwash plains, stream terraces, and lake plains

Position on the landform: Backslopes

Map Unit Composition

Zurich and similar soils: 92 percent

Dissimilar components: 8 percent

Components of Minor Extent

Similar soils:

- Soils that contain carbonates beginning at a depth of less than 20 inches or more than 40 inches
- Soils that contain lacustrine deposits or till in the lower part of the profile
- Soils that contain loamy outwash beginning at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table beginning at a depth of more than 3.5 feet
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that are slightly eroded

Dissimilar components:

- The nearly level, somewhat poorly drained Wauconda soils on summits and footslopes
- The well drained, loamy Orthents, which are manmade; on backslopes
- Areas of urban land

Properties and Qualities of the Zurich Soil

Parent material: Loess or other silty material and the underlying outwash

Drainage class: Moderately well drained

Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderate or moderately rapid

Depth to restrictive feature: More than 80 inches

Available water capacity: About 10.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent

Shrink-swell potential: Moderate

Apparent seasonal high water table: 2.0 to 3.5 feet below the surface (February through April)

Accelerated erosion: The surface layer has been thinned by erosion

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Medium

Susceptibility to water erosion: High

Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e

Prime farmland category: Not prime farmland

Hydric soil status: Not hydric

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

The estimated yields of the main crops and pasture plants are listed, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered (Olson and Lang, 2012; Olson and others, 2000).

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Yields for grass-legume pasture under an average level of management also are shown in table 6. Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the yields table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used

in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA-SCS, 1961).

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2*e*-4 and 3*e*-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section "Detailed Soil Map Units" and in table 6.

Prime Farmland and Other Important Farmlands

Table 7 lists the map units in the survey area that are considered prime farmland and farmland of statewide importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State,

and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

In some areas, land that does not meet the criteria for prime farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

Hydric Soils

Table 8 lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2010).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2010) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2010).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Table 8 lists the map units that include hydric soils, either as major components or as soils of minor extent. The hydric soils listed in the table meet the definition of a hydric soil and have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2010).

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.



Figure 15.—A forested area of Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded on a flood plain along the North Branch of the Chicago River.

3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Forestland Productivity and Management

Several forest types occur in Cook County, including upland forests, upland savannas, and flood-plain forests (fig. 15). These forests are not only esthetically pleasing but also serve to protect and enhance watershed quality, recreation, and wildlife habitat. The forestland that still exists in the county could be greatly improved if proper management measures were applied. Assistance in establishing, improving, or managing forestland is available from foresters or natural resource specialists with various local, State, and Federal agencies, including the Illinois Department of Natural Resources, the Forest Service, the Natural Resources Conservation Service, and the local Soil and Water Conservation District.

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

Forestland Productivity

In table 9 the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average

height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Management

In table 10 interpretive ratings are given for forestland planting and harvesting. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for

wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not originally support trees. Knowledge of how well the trees grow on such land can be gained only by observing and recording the growth of trees that have been planted and have survived. Many popular windbreak species are not indigenous to the areas in which they are planted.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters, a tree or shrub may grow well or grow poorly, depending on the characteristics of the soil. Each tree or shrub has definable potential heights in a given physiographic area and under a given climate. Accurate definitions of potential heights are necessary when a windbreak is planned and designed.

Table 11 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

Recreational Development

The Forest Preserve District of Cook County was established on November 30, 1914. The first parcel of land that was acquired was 500 acres in Palatine, now known as the Deer Grove Preserve. It was purchased in 1916 for around 700 dollars an acre. Since then, the Forest Preserve District has preserved 67,800 acres of open land, which is approximately 11 percent of the county's land (FPDCC, 2008).

The Forest Preserve District of Cook County offers a variety of recreational opportunities. Opportunities include more than 200 picnic groves; more than 100 miles of paved bicycle trails; more than 200 miles of multi-use trails for equestrians, hikers, and cross-country skiers; 10 golf courses; and 4 driving ranges (fig. 16). Other recreational opportunities include fishing, ice skating, youth organized camping, model airplane fields, model boating, boating, and birding. The Forest Preserve District also operates six nature centers. These centers highlight the natural diversity of the Chicago region, and each of them interprets the natural area unique to its site (FPDCC, 2008).

The Illinois Prairie Path is a 61-mile, multi-use, limestone trail that stretches through Cook, Du Page, and Kane Counties. It passes through residential areas, business districts, and forest preserves. It was built in the 1960s on the right-of-way once occupied by the Chicago, Aurora, and Elgin Railroad. It was the first rail-to-trail conversion of its kind in the country. Many of the remnants of the original tallgrass prairie exist today because of the railroad.

The Chicago Park District in partnership with Westrec Marinas of Encino, California, manages nine lakefront harbors, from Lincoln Park in the north to Jackson Park in the South. The Chicago Park District Harbors is the Nation's largest municipal harbor system (fig. 17). The Chicago Park District also manages the city's 26 miles of open lakefront. It offers many recreational opportunities, from jogging to kayaking, and admission is free. There are more than 50 community gardens throughout the Chicago parks. Many focus on ornamental plants such as perennials, shrubs, and small trees

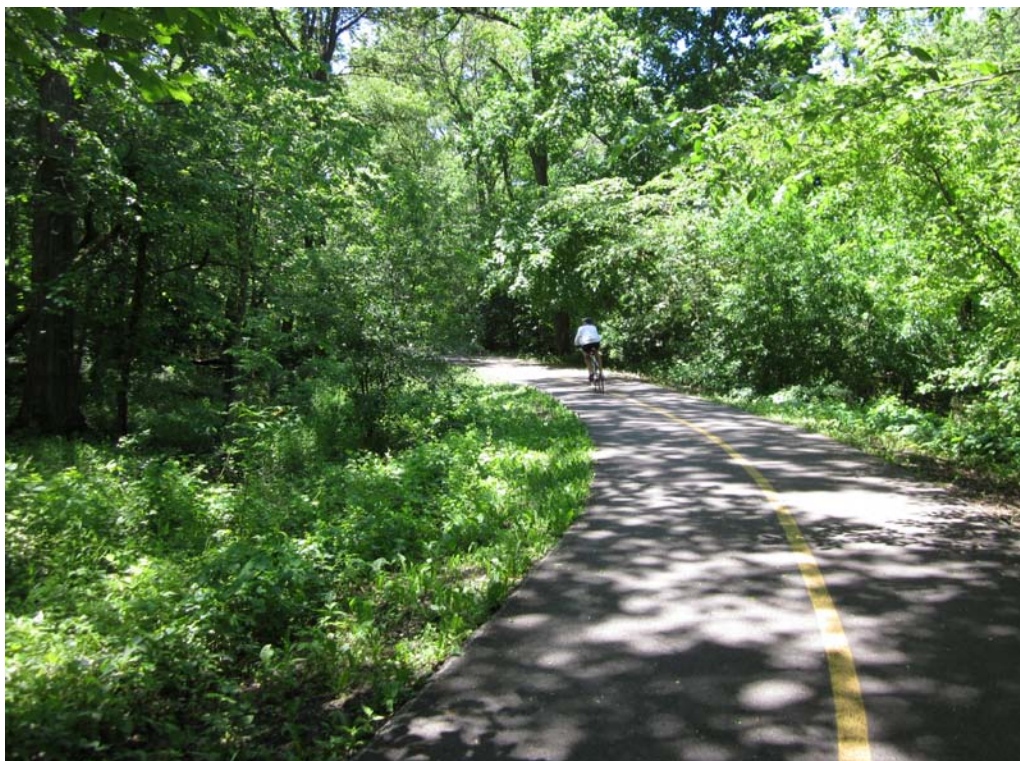


Figure 16.—The Forest Preserve District of Cook County offers miles of paved bicycle trails.



Figure 17.—One of the several harbors in downtown Chicago that provide easy access to Lake Michigan.



Figure 18.—The Chicago Park District has many nature sanctuaries with hiking trails throughout the city.

(fig. 18). The residents of the community care for the garden and the whole park. There are many community garden options and programs through the Chicago Park District that are available to the public.

Other recreational opportunities in the county include the Field Museum, Adler Planetarium, Museum of Science and Industry, Millennium Park, Grant Park, Shedd Aquarium, Art Institute of Chicago, Navy Pier, Lincoln Park Zoo, Brookfield Zoo, Chicago Botanic Garden, and various theatre and outdoor venues.

Only about 5 percent of the survey area is used for recreation. The rapidly increasing metropolitan population places a severe burden on the existing recreational facilities. The competition for land for urban uses, such as homes, commercial and industrial development, and highways, commonly leaves only the less desirable tracts for recreational use. Because of the wide range of recreational activities and the seasonal nature of recreation, however, many of these tracts can be important recreational areas.

In Cook County, the Lake Michigan shoreline is the greatest natural recreation area (fig. 19). Lake beaches and adjacent parks are well suited to high-density outdoor recreation. Other facilities include golf courses, playgrounds, athletic fields, swimming pools, and camping and picnicking areas. Because a large acreage is already used for recreational facilities and because more facilities are needed, understanding soil properties and limitations is important. This soil survey can be used in comprehensive regional planning and in individual site selection.

The soils of the survey area are rated in tables 12a and 12b according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of

the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in these tables can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.



Figure 19.—Jet skiing is one of many recreational opportunities available on Lake Michigan.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

Past geologic conditions have played a significant role in soil formation and topography, and a wide variety of soils have developed. Throughout Cook County, soils directly affect the potential for habitat development and thus the numbers and types of wildlife that might eventually use these habitat types.

Habitat types include grasslands, woodlands, and wetlands. There are two broad categories of grasslands: cool-season grasses (such as brome, orchardgrass, and timothy) and warm-season grasses (such as big bluestem, switchgrass, and indiangrass). Both types of grasses, along with their associated herbaceous plants (flowers), can produce good habitat for wildlife if managed properly. There are small parcels of grassland in Cook County that are managed by the Nature Conservancy.

The woodland habitat in Cook County is exclusive to the forest preserves (fig. 20). There are more than 60,000 acres of forest preserves that provide habitat to different types of wildlife. Woodland types can be grouped according to their position on the landscape—that is, on bottom land or in the uplands. Bottom-land woods occur on the flood plains in the forest preserves and range from very small to large. Trees and shrubs in these areas are specially adapted to somewhat wet to very wet conditions. The remainder of the woodlands in the forest preserves is dominated by trees and shrubs that thrive on better drained soils.

Wetlands range from cattail marshes to areas of open water, such as rivers, ponds, and small lakes (fig. 21). Shallow water areas are typically very productive habitats that support both large numbers and numerous types of wildlife. Plants that are characteristic of wetlands have developed under wet conditions and have evolved ways of dealing with excess moisture. River habitat in Cook County consists of the Chicago, Des Plaines, and Calumet Rivers and their tributaries. A wide assortment of species may use wetland habitat at one time or another.

In table 13, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity,



Figure 20.—A flood plain in a tract of forest preserve that provides food and shelter for white-tailed deer.

wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and soybeans.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, timothy, orchardgrass, brome grass, clover, alfalfa, and birdsfoot trefoil.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestems, indiagrass, sideoats grama, goldenrod, lambsquarter, dandelions, partridge pea, coneflower, sunflowers, butterflyweed, and milkvetch.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness.

Examples of these plants are oak, sycamore, beech, maple, hickory, green ash, crabapple, American plum, and eastern redbud. Examples of fruit-producing shrubs that are suitable for planting on soils rated good are redosier dogwood, elderberry, winterberry, spicebush, and serviceberry.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wildrye, switchgrass, prairie cordgrass, rushes, sedges, waterplantain, beggartick, aster, and willows.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and



Figure 21.—Shallow water areas support a variety of wildlife.

seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include ring-necked pheasant, bobwhite quail, meadowlark, field sparrow, killdeer, cottontail rabbit, coyote, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include thrushes, woodpeckers, owls, tree squirrels, raccoon, coyote, and white-tailed deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, muskrat, beaver, frogs, and turtles.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

With continued development and land use changes, urban erosion can be a major factor affecting water quality. It is estimated that the rate of urban erosion and the resulting sediment may be as much as 300 to 400 times the erosion rate in agricultural areas. Urban land under development is commonly stripped for several years without adequate erosion control. Soil compaction and massive earth moving are more conducive to erosion than seedbed preparation for crop production.

Erosion-control practices for urban land involve essentially the same concepts as those applied to agriculture. The surface of the soil should be protected from the impact of raindrops, and the runoff from accumulated rainwater must be controlled. Effective control of erosion and sediment involves three major elements. First, the soil should be protected by maintaining a permanent or temporary vegetative cover, mulching, or using a variety of other practices. Second, runoff should be controlled with conservation practices. These practices include diversions, grassed waterways or lined swales, storm sewers, and gully-control structures. Third, sediment should be captured by using sediment basins, sediment traps, and filter fences.

Erosion-control measures are most effective in combinations. The measures used and their effectiveness depend on the soil characteristics and topography. Information about the design of erosion-control measures is provided in the "Illinois Urban Manual" (USDA-NRCS, 2010), which is available in local offices of the Natural Resources Conservation Service.

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 14a and 14b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock

or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 15a and 15b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates

that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the

hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 16a and 16b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 16a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used

to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 16b, the rating class terms are *good*, *fair*, and *poor*. The features that limit the soils as sources of reclamation material, roadfill, and topsoil are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of these materials. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Tables 17a, 17b, and 17c give information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds; grassed waterways; drainage; and pesticide loss potential. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Table 17a

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Table 17b

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A

hazard of wind erosion, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Drainage is used in some areas to remove excess subsurface and surface water from the soil. The ratings in the table apply to undisturbed soils that commonly have a seasonal high water table within a depth of about 3.5 feet. Current land use is not considered in the ratings. Depth to bedrock, a dense layer, or a cemented pan, the content of large stones, and the content of clay influence the ease of digging, filling, and compacting. A seasonal high water table, ponding, and flooding may restrict the period when excavations can be made. The slope influences the use of machinery. Soil texture and depth to the water table influence the resistance to sloughing. Subsidence of organic layers influences grade and stability of tile drains. Limitations affecting areas where the tile line passes through soils in which the water table is generally below a depth of 3.5 feet are provided in table 14b, which is described under the heading "Building Site Development."

Table 17c

Leaching is the potential for pesticides to be transported by percolating water below the plant root zone. Pesticides in ground-water solution are leached from the soil surface layer and transported vertically or horizontally through the soil and vadose zone by percolating water. Leaching pesticides have the potential to contaminate shallow and deep aquifers, springs, and local water tables. The pesticides considered available in leaching are those applied to or incorporated into the surface layer of the soil. Precipitation, either as rain, sleet, or snow, and irrigation are considered the major sources of soil moisture available for leaching pesticides through the soil and vadose zone. The soil properties that affect the potential for leaching are soil texture, surface layer thickness, organic matter content, structure, bulk density, permeability of soil or bedrock, shrink-swell potential, depth to an impermeable layer, depth to the water table, and slope. The soil rating for leaching is based on the potential for soils to retain pesticides within the boundaries of the root zone and is not directed toward any particular pesticide or family of pesticides. For the purpose of the rating, pesticides are considered to be applied to bare soil.

Soil surface runoff is the potential for pesticides to be transported by surface runoff beyond the field boundary where the pesticide was applied. Pesticides are transported by surface runoff as either pesticides in solution or pesticides adsorbed to sediments suspended in runoff. Pesticides that are surface transported have a potential to contaminate surface waters, such as lakes, ponds, streams, and rivers. The soil properties and qualities considered in pesticide surface runoff are those that affect rates of runoff and erosion. These soil properties and qualities are soil texture, organic matter content, structure, particle-size distribution, permeability, restrictive layers, depth, drainage, depth to a water table, slope, and shrink-swell potential. Runoff is represented by slope and the hydrologic soil group, which considers soil texture, permeability, restrictive layers, depth, drainage, and shrink-swell potential. Soil erodibility is represented by the K factor, which is estimated from soil particle-size distribution, organic matter content, structure, and permeability. Flooding has the potential for the catastrophic loss of surface pesticides. It may remove large quantities of pesticides, either those in solution or those adsorbed into sediments, in a single event. Ponding can concentrate pesticides that are surface transported, and draining ponded areas adversely affects the receiving surface waters. The rating for soil surface runoff is based on the potential for soils to retain pesticides within the boundaries of the field where they are applied and is not directed toward any particular pesticide or family of pesticides. For the purpose of the rating, pesticides are considered to be applied to bare soil.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 18 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 22). "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

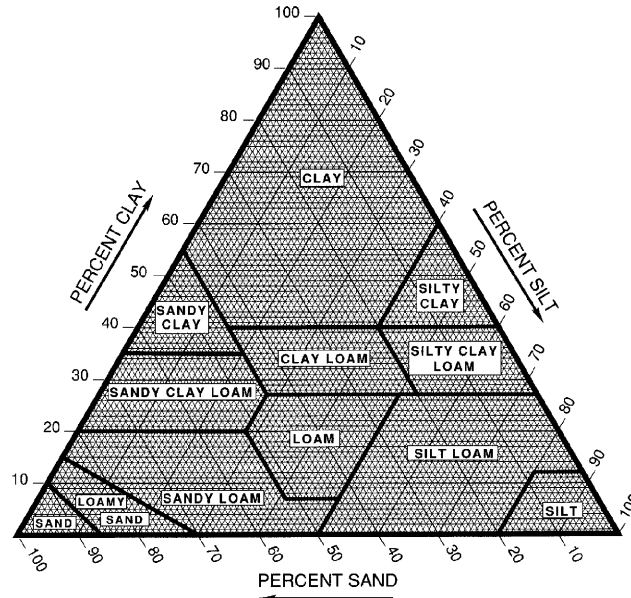


Figure 22.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical Soil Properties

Table 19 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $1/3$ - or $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent.

If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook," which is available online at <http://soils.usda.gov>.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Soil Properties

Table 20 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory

analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Water Features

Table 21 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 21 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

The table also shows the *kind of water table*, that is, apparent or perched. An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is

nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 22 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible.

Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook" (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate.....	6 to 9
High	9 to 12
Very high.....	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Basal till. Compact till deposited beneath the ice.

- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope.** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Beach deposits.** Material, such as sand and gravel, that is generally laid down parallel to an active or relict shoreline of a postglacial or glacial lake.
- Beach ridge.** A low, essentially continuous mound of beach or beach and dune material accumulated by the action of waves and currents on the backshore of a beach, beyond the present limit of storm waves or the reach of ordinary tides, and occurring singly or as one of a series of approximately parallel deposits. The ridges are roughly parallel to the shoreline and represent successive positions of an advancing shoreline.
- Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- Blowout.** A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.
- Bottom land.** The normal flood plain of a stream, subject to flooding.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
- Cahokia Formation** (geologic). This formation consists of deposits on flood plains and in channels of modern rivers and streams. The material is mostly poorly sorted sand, silt, or clay containing local deposits of sandy gravel.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Calcium carbonate.** A common mineral in sediments and soils.
- Canopy.** The leafy crown of trees or shrubs. (See Crown).
- Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
- Catena.** A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a chanter.
- Chemical treatment.** Control of unwanted vegetation through the use of chemicals.
- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.
- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Claypan.** A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Coarse textured soil.** Sand or loamy sand.
- Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.
- Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- Conglomerate.** A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting

crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.7 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diamicton (geologic). A general term for a till-like mixture of unsorted, unstratified rock debris composed of a wide range of particle sizes; this term does not indicate how such debris was formed or deposited.

Diatomaceous earth. A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

- Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.
- Dolostone.** A carbonate sedimentary rock consisting chiefly (more than 50 percent by weight or by areal percentages under the microscope) of the mineral dolomite.
- Drainage class** (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained*, *somewhat excessively drained*, *well drained*, *moderately well drained*, *somewhat poorly drained*, *poorly drained*, and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”
- Drainage, surface.** Runoff, or surface flow of water, from an area.
- Drainageway.** A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.
- Drift.** A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.
- Drumlin.** A low, smooth, elongated oval hill, mound, or ridge of compact till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.
- Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.
- Dune.** A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.
- Earthy fill.** See Mine spoil.
- Ecological site.** An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. An association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production typifies it.
- Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.
- End moraine.** A ridge-like accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.
- Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.
- Eolian deposit.** Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.
- Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.
- Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Equality Formation (geologic). This formation consists of gray to red silt and clay, generally shows evidence of bedding structures, and occurs above the Sangamon Geosol. It dominantly occurs as a fine grained lacustrine sediment. It ranges from 26,000 radiocarbon years ago to present in age. See Mason Group.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Esker. A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

- Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.
- Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
- Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.
- Frost action** (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.
- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- Geosol.** A buried soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was interrupted by burial. A geosol is a laterally traceable, mappable, geologic weathering profile that has a consistent stratigraphic position. See Paleosol.
- Glacial** (geologic). This term indicates both the processes and results of erosion and deposition arising from the presence of an ice mass (glacier) on a landscape.
- Glacial lake (relict).** An area formerly occupied by a glacial lake. (See Glaciolacustrine deposits).
- Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.
- Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.
- Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.
- Green manure crop** (agronomy). A soil-improving crop grown to be plowed under at an early stage of maturity or soon after maturity.
- Ground moraine.** An extensive, fairly even layer of till, having an uneven or undulating surface.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.
- Haeger Member** (geologic). The coarse grained, uppermost unit of diamicton in the Lemont Formation. It consists of calcareous, light gray to gray, gravelly sandy loam diamicton that contains lenses of gravel, sand, silt, and clay.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

Henry Formation (geologic). This formation consists of stratified sand and gravel that occurs above the Sangamon Geosol. See Mason Group.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Holocene (geologic). The postglacial age or time period; about 12,600 years ago until the present. See Quaternary.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential.

The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state.

Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illinoian (geologic). In Illinois, the glacial age of ice advance preceding the Sangamonian and Wisconsinian and following the Yarmouthian and pre-Illinoian during the Pleistocene. This glaciation practically covered the entire area of present-day Illinois with the exception of small portions in the northwestern, western, and southern parts. See Pleistocene.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all.

No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluv. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluv (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape

Interglacial. A period of time between major glacial stages. See Holocene, Sangamonian, and Yarmouthian.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Kame. An irregular, short ridge or hill of stratified glacial drift.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Krotovina. An irregular, tubelike streak in a soil horizon created when tunnels made by a burrowing animal are filled with material from another horizon.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Lamella. A thin (commonly less than 1 centimeter), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).

Landscape. A collection of related natural landforms; usually the land surface which the eye can comprehend in a single view.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Lemont Formation (geologic). This formation of the Wedron Group is the succession of fine to coarse textured gray diamicton units that overly the Tiskilwa Formation. It has four differentiated members; the Lemont, Batestown, Yorkville, and Haeger Members. In northern Illinois, the Lemont Formation is not subdivided. It consists of calcareous, gray, fine to coarse textured diamicton units that contain lenses of gravel, sand, silt, and clay.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

- Major land resource area (MLRA).** A geographic area characterized by a particular pattern of land uses, elevation and topography, soils, climate, water resources, and potential natural vegetation.
- Marl.** An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.
- Mason Group** (geologic). This group comprises three proglacial and one postglacial sorted sediment formations that represent distinct stratigraphic layers based on grain size and bedding characteristics. The proglacial units are Roxana Silt, Peoria Silt, and the Henry Formation. The postglacial unit is the Equality Formation.
- Masses.** See Redoximorphic features.
- Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.
- Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.
- Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.
- Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.
- Mine spoil.** An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.
- Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.
- Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.
- Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.
- Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.
- Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.
- Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.
- Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.
- Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, (less than 2 percent); *common*, (2 to 20 percent); and *many*, (more than 20 percent); size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *fine* indicates less than 2 millimeters (about 0.08 inch); *medium*, from 2 to 5 millimeters (about 0.08 to 0.2 inch); *coarse*, 5 to 20 millimeters (about 0.2 to 0.8 inch); *very coarse*, from 20 to 76 millimeters (about 0.8 to 3.0 inches); and *extremely coarse*, greater than 76 millimeters.
- Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)
- Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.
- Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)
- Nodules.** See Redoximorphic features.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low.....	1.0 to 2.0 percent
Moderate.....	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high.....	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleosol. A general term used to describe a soil that formed on a landscape of the past; it may be a buried soil, a relict soil, or an exhumed soil. See Geosol.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms describing permeability, measured in inches per hour, are as follows:

Impermeable.....	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow.....	0.2 to 0.6 inch
Moderate.....	0.6 inch to 2.0 inches
Moderately rapid.....	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid.....	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

- Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.
- Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.
- Plasticity index**. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.
- Plastic limit**. The moisture content at which a soil changes from semisolid to plastic.
- Pleistocene** (geologic). The period that encompasses all glacial and interglacial stages. It includes the Wisconsinan, Sangamonian, Illinoian, Yarmouthian, and pre-Illinoian ages. It covers about 12,600 to 2 million years before the present.
- Plowpan**. A compacted layer formed in the soil directly below the plowed layer.
- Ponding**. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.
- Poorly graded**. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.
- Potential native plant community**. See Climax plant community.
- Potential rooting depth (effective rooting depth)**. Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.
- Prescribed burning**. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.
- Productivity, soil**. The capability of a soil for producing a specified plant or sequence of plants under specific management.
- Profile, soil**. A vertical section of the soil extending through all its horizons and into the parent material.
- Proper grazing use**. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.
- Quaternary** (geologic). The latest period of time in the stratigraphic column, about 2 million years ago until the present. It is represented by local accumulations of glacial (Pleistocene) and post-glacial (Holocene) deposits. It is an artificial division of time used to separate pre-human from post-human sedimentation.
- Reaction, soil**. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid.....	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline.....	7.4 to 7.8
Moderately alkaline.....	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline.....	9.1 and higher

- Redoximorphic concentrations**. See Redoximorphic features.
- Redoximorphic depletions**. See Redoximorphic features.
- Redoximorphic features**. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with

water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
 - A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
 - B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
 - C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
 - A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
 - B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. A soil that is 85 percent or more sand and not more than 10 percent clay is considered to be in the sand texture class.

- Sandstone.** Sedimentary rock containing dominantly sand-sized particles.
- Sangamonian** (geologic). In Illinois, the interglacial age between the Illinoian and Wisconsinian glacial stages during the Pleistocene. See Pleistocene and Geosol.
- Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.
- Saturated hydraulic conductivity (K_{sat}).** See Permeability.
- Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.
- Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.
- Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.
- Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.
- Seepage** (in tables). The movement of water through the soil. Seepage adversely affects the specified use.
- Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)
- Series, soil.** A group of soils that have profiles that are almost alike. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.
- Shale.** Sedimentary rock formed by the hardening of a clay deposit.
- Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.
- Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.
- Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.
- Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.
- Silica.** A combination of silicon and oxygen. The mineral form is called quartz.
- Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). Soil that is 80 percent or more silt and less than 12 percent clay is considered to be in the silt textural class.
- Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.
- Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.
- Site index.** A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.
- Slickensides.** Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay.....	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is covered by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. It originally formed near the level of the stream and represents the dissected remnants of an abandoned flood plain, streambed, or valley floor produced during a former state of erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine. A belt of thick glacial drift that generally marks the termination of important glacial advances.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Till plain. An extensive area of nearly level to undulating soils underlain by till.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

- Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.
- Vadose zone.** The aerated region of soil above the permanent water table.
- Valley fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.
- Variation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.
- Varve.** A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.
- Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.
- Wedron Group** (geologic). This group consists of mostly diamicton of the Wisconsinan age.
- Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.
- Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.
- Windthrow.** The uprooting and tipping over of trees by the wind.
- Wisconsinan** (geologic). In Illinois, the last glacial stage of ice advance during the Pleistocene. It follows the Sangamonian interglacial stage. See Pleistocene.
- Yarmouthian** (geologic). In Illinois, the interglacial period between the pre-Illinoian and Illinoian glacial stages during the Pleistocene. See Pleistocene.

Tables

Soil Survey of Cook County, Illinois

Table 1.—Temperature and Precipitation

(Recorded in the period 1971-2000 at Park Forest, Illinois)

Month	Temperature (degrees F)						Precipitation (inches)					
				2 years in 10 will have--		Average number of growing degree days* (units)	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snow-fall		
	Average daily maximum	Average daily minimum	Average daily	Maximum temp. higher than--	Minimum temp. lower than--		Average	Less than--			More than--	
January--	29.2	14.8	22.0	56	-17	0	1.79	0.70	2.71	4	10.4	
February--	34.7	19.7	27.2	63	-10	5	1.64	0.64	2.48	4	7.3	
March----	45.7	29.7	37.7	77	5	18	2.73	1.46	3.85	7	4.3	
April----	58.1	39.4	48.8	85	18	88	3.80	2.14	5.27	8	0.9	
May-----	70.0	50.0	60.0	91	31	338	4.14	2.33	5.75	7	0.0	
June-----	80.0	59.5	69.8	95	40	592	4.66	2.36	6.67	7	0.0	
July-----	83.7	64.7	74.2	98	49	750	4.08	2.19	5.74	6	0.0	
August---	81.5	63.3	72.4	95	46	695	3.82	1.72	5.61	6	0.0	
September	74.7	55.2	65.0	92	35	450	3.15	1.46	4.61	6	0.0	
October--	63.0	43.2	53.1	84	24	172	2.79	1.42	3.99	6	0.3	
November-	47.5	32.8	40.2	73	11	25	3.38	1.53	4.97	6	1.2	
December-	34.8	21.1	28.0	61	-8	12	2.67	1.24	3.89	5	7.0	
Yearly: Average	58.6	41.1	49.9	---	---	---	---	---	---	---	---	
Extreme	103	-27	---	98	-18	---	---	---	---	---	---	
Total--	---	---	---	---	---	3,145	38.65	33.89	43.26	71	32.6	

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Soil Survey of Cook County, Illinois

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Park Forest, Illinois)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 17	Apr. 26	May 12
2 years in 10 later than--	Apr. 12	Apr. 21	May 7
5 years in 10 later than--	Apr. 3	Apr. 13	Apr. 26
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 20	Oct. 11	Sept. 28
2 years in 10 earlier than--	Oct. 27	Oct. 17	Oct. 3
5 years in 10 earlier than-	Nov. 8	Oct. 28	Oct. 13

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Park Forest, Illinois)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	193	174	143
8 years in 10	202	182	152
5 years in 10	219	198	168
2 years in 10	235	213	185
1 year in 10	244	221	193

Soil Survey of Cook County, Illinois

Table 4.—Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Alfic Udarents-----	Fine, mixed, active, nonacid, mesic Alfic Udarents
Andres-----	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Aquents-----	Fine, mixed, active, calcareous, mesic Typic Endoaquolls
Ashkum-----	Fine, mixed, superactive, mesic Typic Endoaquolls
Barrington-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Beecher-----	Fine, illitic, mesic Udollic Epiaqualfs
Blount-----	Fine, illitic, mesic Aeric Epiaqualfs
Bryce-----	Fine, mixed, superactive, mesic Vertic Endoaquolls
Casco-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Inceptic Hapludalfs
Chatsworth-----	Fine, illitic, mesic Oxyaquic Eutrudepts
Chenoa-----	Fine, illitic, mesic Aquic Argiudolls
Darroch-----	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Del Rey-----	Fine, illitic, mesic Aeric Epiaqualfs
Drummer-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Dunham-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Elliott-----	Fine, illitic, mesic Aquic Argiudolls
*Faxon-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Fox-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludalfs
Frankfort-----	Fine, illitic, mesic Udollic Epiaqualfs
Gilford-----	Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls
Graymont-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Grays-----	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Griswold-----	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Grundelein-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Harpster-----	Fine-silty, mixed, superactive, mesic Typic Calciaquolls
Hoopeston-----	Coarse-loamy, mixed, superactive, mesic Aquic Hapludolls
Houghton-----	Euic, mesic Typic Haplosaprists
Kane-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Aquic Argiudolls
Kankakee-----	Loamy-skeletal, mixed, superactive, mesic Typic Hapludolls
Kidder-----	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Lawson-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Lorenzo-----	Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Argiudolls
Markham-----	Fine, illitic, mesic Mollic Oxyaquic Hapludalfs
Martinton-----	Fine, illitic, mesic Aquic Argiudolls
Milford-----	Fine, mixed, superactive, mesic Typic Endoaquolls
Mokena-----	Fine-loamy, mixed, active, mesic Aquic Argiudolls
Mundelein-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Muskego-----	Coprogeous, euic, mesic Limnic Haplosaprists
Nappanee-----	Fine, illitic, mesic Aeric Epiaqualfs
Oakville-----	Mixed, mesic Typic Udipsamments
Orthents, clayey-----	Fine, mixed, active, nonacid, mesic Aquic Udorthents
Orthents, clayey, refuse substratum-----	Fine, mixed, active, nonacid, mesic Typic Udorthents
Orthents, loamy-----	Fine-loamy, mixed, active, nonacid, mesic Oxyaquic Udorthents
Orthents, loamy-skeletal	Loamy-skeletal, mixed, active, calcareous, mesic Typic Udorthents
Orthents, undulating, stony-----	Fine-loamy, mixed, active, calcareous, mesic Oxyaquic Udorthents
Ozaukee-----	Fine, illitic, mesic Oxyaquic Hapludalfs
Pella-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Peotone-----	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Plainfield-----	Mixed, mesic Typic Udipsamments
Psamments-----	Mixed, mesic Typic Udipsamments
Rockton-----	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Rodman-----	Sandy-skeletal, mixed, mesic Typic Hapludolls
Romeo-----	Loamy, mixed, superactive, mesic Lithic Endoaquolls
Sawmill-----	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
*Saylesville-----	Fine, illitic, mesic Oxyaquic Hapludalfs

Soil Survey of Cook County, Illinois

Table 4.—Classification of the Soils—Continued

Soil name	Family or higher taxonomic class
Selma-----	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
Selma-----	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
St. Clair-----	Fine, illitic, mesic Oxyaquic Hapludalfs
Swygert-----	Fine, mixed, active, mesic Aquic Argiudolls
Symerton-----	Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls
Thorp-----	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Varna-----	Fine, illitic, mesic Oxyaquic Argiudolls
*Varna-----	Fine, illitic, mesic Mollic Oxyaquic Hapludalfs
Warsaw-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiudolls
Watseka-----	Sandy, mixed, mesic Aquic Hapludolls
Wauconda-----	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Waupecan-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Wesley-----	Coarse-loamy, mixed, superactive, mesic Aquic Hapludolls
Whitaker-----	Fine-loamy, mixed, active, mesic Aeric Endoaqualfs
Will-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Endoaquolls
Zurich-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

Soil Survey of Cook County, Illinois

Table 5.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
23A	Blount silt loam, 0 to 2 percent slopes-----	1,441	0.2
23B	Blount silt loam, 2 to 4 percent slopes-----	1,571	0.3
49A	Watseka loamy fine sand, 0 to 2 percent slopes-----	5,435	0.9
54B	Plainfield loamy sand, 1 to 6 percent slopes-----	1,395	0.2
67A	Harpster silty clay loam, 0 to 2 percent slopes-----	187	*
69A	Milford silty clay loam, 0 to 2 percent slopes-----	17,722	2.9
91A	Swygert silty clay loam, 0 to 2 percent slopes-----	845	0.1
91B	Swygert silty clay loam, 2 to 4 percent slopes-----	482	*
103A	Houghton muck, 0 to 2 percent slopes-----	30	*
125A	Selma loam, 0 to 2 percent slopes-----	2,458	0.4
141A	Wesley fine sandy loam, 0 to 2 percent slopes-----	1,950	0.3
146A	Elliott silt loam, 0 to 2 percent slopes-----	6,482	1.1
146B	Elliott silt loam, 2 to 4 percent slopes-----	1,633	0.3
152A	Drummer silty clay loam, 0 to 2 percent slopes-----	4,246	0.7
153A	Pella silty clay loam, 0 to 2 percent slopes-----	820	0.1
172A	Hoopeston fine sandy loam, 0 to 2 percent slopes-----	1,792	0.3
189A	Martinton silt loam, 0 to 2 percent slopes-----	6,517	1.1
192A	Del Rey silt loam, 0 to 2 percent slopes-----	3,175	0.5
201A	Gilford fine sandy loam, 0 to 2 percent slopes-----	1,705	0.3
206A	Thorp silt loam, 0 to 2 percent slopes-----	399	*
223B	Varna silt loam, 2 to 4 percent slopes-----	3,218	0.5
223C2	Varna silt loam, 4 to 6 percent slopes, eroded-----	366	*
228A	Nappanee silt loam, 0 to 2 percent slopes-----	123	*
228B	Nappanee silt loam, 2 to 4 percent slopes-----	677	0.1
228C2	Nappanee silty clay loam, 4 to 6 percent slopes, eroded-----	1,091	0.2
232A	Ashkum silty clay loam, 0 to 2 percent slopes-----	19,531	3.2
235A	Bryce silty clay, 0 to 2 percent slopes-----	4,280	0.7
241D3	Chatsworth silty clay, 6 to 12 percent slopes, severely eroded-----	578	*
241E3	Chatsworth silty clay, 12 to 20 percent slopes, severely eroded-----	62	*
290B	Warsaw silt loam, 2 to 4 percent slopes-----	1,406	0.2
293A	Andres silt loam, 0 to 2 percent slopes-----	1,270	0.2
294B	Symerton silt loam, 2 to 5 percent slopes-----	1,677	0.3
295A	Mokena silt loam, 0 to 2 percent slopes-----	436	*
298A	Beecher silt loam, 0 to 2 percent slopes-----	4,137	0.7
298B	Beecher silt loam, 2 to 4 percent slopes-----	4,655	0.8
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded-----	348	*
318D2	Lorenzo loam, 6 to 12 percent slopes, eroded-----	385	*
320A	Frankfort silt loam, 0 to 2 percent slopes-----	1,369	0.2
320B	Frankfort silt loam, 2 to 4 percent slopes-----	7,445	1.2
320C2	Frankfort silty clay loam, 4 to 6 percent slopes, eroded-----	1,813	0.3
327A	Fox silt loam, 0 to 2 percent slopes-----	309	*
327B	Fox silt loam, 2 to 4 percent slopes-----	2,119	0.3
327C2	Fox silt loam, 4 to 6 percent slopes, eroded-----	212	*
329A	Will silty clay loam, 0 to 2 percent slopes-----	838	0.1
330A	Peotone silty clay loam, 0 to 2 percent slopes-----	6,258	1.0
343A	Kane silt loam, 0 to 2 percent slopes-----	925	0.2
361B	Kidder loam, 2 to 4 percent slopes-----	736	0.1
361C2	Kidder loam, 4 to 6 percent slopes, eroded-----	589	*
361D2	Kidder loam, 6 to 12 percent slopes, eroded-----	277	*
361E2	Kidder loam, 12 to 20 percent slopes, eroded-----	72	*
363B	Griswold loam, 2 to 4 percent slopes-----	346	*
363C2	Griswold loam, 4 to 6 percent slopes, eroded-----	185	*
367	Beaches-----	260	*
369B	Waupecan silt loam, 2 to 4 percent slopes-----	722	0.1
370B	Saylesville silt loam, 2 to 4 percent slopes-----	115	*
392A	Urban land-Orthents, loamy, complex, nearly level-----	26,607	4.3
392B	Urban land-Orthents, loamy, complex, gently sloping-----	1,724	0.3
442A	Mundelein silt loam, 0 to 2 percent slopes-----	4,306	0.7
443B	Barrington silt loam, 2 to 4 percent slopes-----	1,328	0.2
494B	Kankakee fine sandy loam, 2 to 4 percent slopes-----	763	0.1
503B	Rockton silt loam, 2 to 6 percent slopes-----	581	*
522B	Orthents, clayey, refuse substratum, undulating-----	370	*
522D	Orthents, clayey, refuse substratum, rolling-----	441	*

See footnote at end of table.

Soil Survey of Cook County, Illinois

Table 5.-Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
522F	Orthents, clayey, refuse substratum, steep-----	368	*
523A	Dunham silty clay loam, 0 to 2 percent slopes-----	39	*
526A	Grundelein silt loam, 0 to 2 percent slopes-----	11	*
529A	Selma silt loam, 0 to 2 percent slopes-----	362	*
530B	Ozaukee silt loam, 2 to 4 percent slopes-----	9,858	1.6
530C	Ozaukee silt loam, 4 to 6 percent slopes-----	1,304	0.2
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded-----	9,079	1.5
530D	Ozaukee silt loam, 6 to 12 percent slopes-----	3,034	0.5
530D2	Ozaukee silt loam, 6 to 12 percent slopes, eroded-----	7,868	1.3
530D3	Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded-----	1,088	0.2
530E	Ozaukee silt loam, 12 to 20 percent slopes-----	4,137	0.7
530F	Ozaukee silt loam, 20 to 30 percent slopes-----	3,434	0.6
531B	Markham silt loam, 2 to 4 percent slopes-----	15,809	2.6
531C2	Markham silt loam, 4 to 6 percent slopes, eroded-----	13,593	2.2
531D2	Markham silt loam, 6 to 12 percent slopes, eroded-----	751	0.1
533	Urban land-----	104,600	17.0
534A	Urban land-Orthents, clayey, complex, nearly level-----	31,154	5.1
534B	Urban land-Orthents, clayey, complex, gently sloping-----	550	*
535B	Orthents, undulating, stony-----	2,648	0.4
541B	Graymont silt loam, 2 to 5 percent slopes-----	338	*
560D2	St. Clair silty clay loam, 6 to 12 percent slopes, eroded-----	199	*
571A	Whitaker loam, 0 to 2 percent slopes-----	656	0.1
614A	Chenoa silty clay loam, 0 to 2 percent slopes-----	81	*
696A	Zurich silt loam, 0 to 2 percent slopes-----	215	*
696B	Zurich silt loam, 2 to 4 percent slopes-----	1,060	0.2
696C2	Zurich silt loam, 4 to 6 percent slopes, eroded-----	131	*
696D2	Zurich silt loam, 6 to 12 percent slopes, eroded-----	114	*
697A	Wauconda silt loam, 0 to 2 percent slopes-----	1,349	0.2
698B	Grays silt loam, 2 to 4 percent slopes-----	1,139	0.2
740A	Darroch silt loam, 0 to 2 percent slopes-----	1,312	0.2
741B	Oakville fine sand, 1 to 6 percent slopes-----	2,799	0.5
741D	Oakville fine sand, 6 to 12 percent slopes-----	330	*
800A	Psammments, nearly level-----	988	0.2
802A	Orthents, loamy, nearly level-----	3,286	0.5
802B	Orthents, loamy, undulating-----	12,569	2.0
802D	Orthents, loamy, rolling-----	339	*
805A	Orthents, clayey, nearly level-----	5,169	0.8
805B	Orthents, clayey, undulating-----	54,683	8.9
805D	Orthents, clayey, rolling-----	1,785	0.3
807A	Orthents, loamy-skeletal, nearly level-----	721	0.1
807B	Orthents, loamy-skeletal, undulating-----	1,462	0.2
811A	Alfic Udarents, clayey, 0 to 2 percent slopes-----	1,198	0.2
811B	Alfic Udarents, clayey, 2 to 6 percent slopes-----	705	0.1
811D	Alfic Udarents, clayey, 6 to 12 percent slopes-----	316	*
822A	Alfic Udarents, clayey-Elliott complex, 0 to 2 percent slopes-----	1,003	0.2
822B	Alfic Udarents, clayey-Elliott complex, 2 to 4 percent slopes-----	171	*
830	Landfills-----	1,375	0.2
848B	Drummer-Barrington-Mundelein complex, 1 to 6 percent slopes-----	1,848	0.3
849A	Milford-Martinton complex, 0 to 2 percent slopes-----	6,703	1.1
854B	Markham-Ashkum-Beecher complex, 1 to 6 percent slopes-----	17,010	2.8
862	Pits, sand-----	41	*
863	Pits, clay-----	59	*
864	Pits, quarry-----	2,476	0.4
865	Pits, gravel-----	1,536	0.2
903A	Muskego and Houghton mucks, 0 to 2 percent slopes-----	3,331	0.5
925B	Frankfort-Bryce complex, 1 to 6 percent slopes-----	3,469	0.6
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded-----	417	*
969F	Casco-Rodman complex, 20 to 30 percent slopes-----	221	*
973A	Hoopeston-Selma complex, 0 to 2 percent slopes-----	1,756	0.3
1103A	Houghton muck, undrained, 0 to 2 percent slopes-----	8	*
1107A	Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded-----	1,715	0.3
1330A	Peotone silty clay loam, undrained, 0 to 2 percent slopes-----	1,039	0.2

See footnote at end of table.

Soil Survey of Cook County, Illinois

Table 5.-Acreage and Proportionate Extent of the Soils-Continued

Map symbol	Soil name	Acres	Percent
1409A	Aquents, clayey, undrained, nearly level-----	420	*
1516A	Faxon silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded-----	395	*
1903A	Muskego and Houghton mucks, undrained, 0 to 2 percent slopes-----	2,317	0.4
2023B	Alfic Udarents, clayey-Urban land-Blount complex, 2 to 4 percent slopes--	519	*
2049A	Orthents, loamy-Urban land-Watseka complex, 0 to 2 percent slopes-----	3,672	0.6
2223B	Alfic Udarents, clayey-Urban land-Varna complex, 2 to 4 percent slopes---	1,640	0.3
2232A	Orthents, clayey-Urban land-Ashkum complex, 0 to 2 percent slopes-----	2,784	0.5
2530B	Alfic Udarents, clayey-Urban land-Ozaukee complex, 2 to 4 percent slopes-	1,159	0.2
2530D	Alfic Udarents, clayey-Urban land-Ozaukee complex, 6 to 12 percent slopes	211	*
2571A	Orthents, loamy-Urban land-Whitaker complex, 0 to 2 percent slopes-----	1,855	0.3
2740A	Orthents, loamy-Urban land-Darroch complex, 0 to 2 percent slopes-----	2,510	0.4
2800A	Urban land-Psamments complex, nearly level-----	3,568	0.6
2800B	Urban land-Psamments complex, gently sloping-----	2,439	0.4
2811A	Urban land-Alfic Udarents, clayey, complex, 0 to 2 percent slopes-----	26,933	4.4
2811B	Urban land-Alfic Udarents, clayey, complex, 2 to 6 percent slopes-----	1,152	0.2
2822A	Alfic Udarents, clayey-Urban land-Elliott complex, 0 to 2 percent slopes-	21,577	3.5
2822B	Alfic Udarents, clayey-Urban land-Elliott complex, 2 to 4 percent slopes-	9,056	1.5
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded-----	7,031	1.1
3316A	Romeo silt loam, 0 to 2 percent slopes, frequently flooded-----	516	*
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded-----	487	*
4904A	Muskego and Peotone soils, ponded, 0 to 2 percent slopes-----	440	*
M-W	Miscellaneous water-----	544	*
W	Water-----	12,776	2.1
	Total-----	616,045	100.0

* Less than 0.1 percent.

Table 6.-Land Capability and Yields per Acre of Crops and Pasture

(The yields given for crops are those that can be expected under an optimum level of management given for grass-legume pasture are those that can be expected under an average level of management for nonirrigated areas. Absence of a yield indicates that the soil is not suited to generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Gra
		Bu	Bu	Bu	Bu	Bu
23A: Blount-----	2w	139	47	58	65	
23B: Blount-----	2e	138	47	57	64	
49A: Watseka-----	3s	122	41	51	61	
54B: Plainfield-----	4s	98	34	40	48	
67A: Harpster-----	2w	182	57	68	89	
69A: Milford-----	2w	171	57	68	88	
91A: Swygert-----	1	158	52	63	79	
91B: Swygert-----	2e	156	51	62	78	
103A: Houghton-----	3w	175	57	---	---	
125A: Selma-----	2w	176	57	70	90	
141A: Wesley-----	2w	152	49	59	78	
146A: Elliott-----	2s	168	55	68	87	
146B: Elliott-----	2e	166	54	67	86	

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn		Soybeans		Winter wheat		Oats	
		Bu		Bu		Bu		Bu	
152A: Drummer-----	2w	195		63		73		100	
153A: Pella-----	2w	183		60		70		92	
172A: Hoopeston-----	2s	147		48		59		73	
189A: Martinton-----	1	173		57		70		88	
192A: Del Rey-----	2w	151		50		61		74	
201A: Gilford-----	2w	148		49		59		73	
206A: Thorp-----	2w	170		55		66		88	
223B: Varna-----	2e	156		50		63		78	
223C2: Varna, eroded-----	3e	149		47		60		74	
228A: Nappanee-----	3w	115		41		45		49	
228B: Nappanee-----	3e	114		41		45		49	
228C2: Nappanee, eroded-----	3e	106		38		41		45	
232A: Ashkum-----	2w	170		56		65		85	
235A: Bryce-----	3w	162		54		64		82	
241D3: Chatsworth, severely eroded-----	6e	---		---		---		---	

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn		Soybeans		Winter wheat		Oats	
		Bu	<u>Bu</u>	Bu	<u>Bu</u>	Bu	<u>Bu</u>	Bu	<u>Bu</u>
241E3: Chatsworth, severely eroded-----	6e	---		---		---		---	
290B: Warsaw-----	2e	159		51		63		81	
293A: Andres-----	1	184		59		71		97	
294B: Symerton-----	2e	177		55		68		91	
295A: Mokena-----	2s	172		54		66		88	
298A: Beecher-----	2w	152		51		61		79	
298B: Beecher-----	2e	150		50		60		78	
318C2: Lorenzo, eroded-----	3e	132		43		53		64	
318D2: Lorenzo, eroded-----	4e	126		41		51		62	
320A: Frankfort-----	3w	134		46		58		61	
320B: Frankfort-----	3e	133		46		57		60	
320C2: Frankfort, eroded-----	3e	123		42		53		56	
327A: Fox-----	2s	149		48		59		73	
327B: Fox-----	2e	148		48		58		72	
327C2: Fox, eroded-----	3e	140		45		55		69	

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Gra
		Bu	Bu	Bu	Bu	
329A: Will-----	2w	174	58	68	88	
330A: Peotone-----	3w	164	55	61	78	
343A: Kane-----	2s	168	55	68	87	
361B: Kidder-----	2e	136	46	55	63	
361C2: Kidder, eroded-----	3e	129	43	53	60	
361D2: Kidder, eroded-----	4e	126	42	52	59	
361E2: Kidder, eroded-----	4e	115	39	47	54	
363B: Griswold-----	2e	154	51	63	76	
363C2: Griswold, eroded-----	3e	147	49	60	72	
367. Beaches						
369B: Waupecan-----	2e	187	58	73	101	
370B: Saylesville-----	2e	142	47	59	69	
392A-----	8	---	---	---	---	
Urban land-----	2s					
Orthents, loamy, nearly level-----						
392B-----	8	---	---	---	---	
Urban land-----	3e					
Orthents, loamy, gently sloping-----						

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn		Soybeans		Winter wheat		Oats	Gra
		Bu		Bu		Bu			
442A: Mundelein-----	1	188		60		74		99	
443B: Barrington-----	2e	174		56		68		93	
494B: Kankakee-----	2e	151		50		63		76	
503B: Rockton-----	3e	133		45		58		74	
522B: Orthents, clayey, refuse substratum, undulating-	4s	---		---		---		---	
522D: Orthents, clayey, refuse substratum, rolling----	4e	---		---		---		---	
522F: Orthents, clayey, refuse substratum, steep-----	6e	---		---		---		---	
523A: Dunham-----	2w	177		58		69		90	
526A: Grundelein-----	1	186		61		71		98	
529A: Selmass-----	2w	163		53		64		84	
530B: Ozaukee-----	2e	149		47		59		79	
530C: Ozaukee-----	3e	147		46		59		78	
530C2: Ozaukee-----	3e	141		44		56		75	

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Gra
		Bu	Bu	Bu	Bu	
530D: Ozaukee-----	4e	144	45	58	77	
530D2: Ozaukee-----	4e	138	43	55	74	
530D3: Ozaukee-----	4e	128	40	51	68	
530E: Ozaukee-----	4e	134	42	53	71	
530F: Ozaukee-----	6e	---	---	---	---	
531B: Markham-----	2e	153	50	60	78	
531C2: Markham, eroded-----	3e	146	47	57	74	
531D2: Markham, eroded-----	4e	143	46	56	73	
533. Urban land						
534A-----	8	---	---	---	---	
Urban land-----						
Orthents, clayey, nearly level-----	4s					
534B-----	8	---	---	---	---	
Urban land-----						
Orthents, clayey, gently sloping-----	4s					
535B: Orthents, undulating, stony-----	7s	---	---	---	---	
541B: Graymont-----	2e	181	56	70	93	
560D2: St. Clair, eroded-----	4e	109	37	48	51	

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn		Soybeans		Winter wheat		Oats	Gra
		Bu		Bu		Bu			
571A: Whitaker-----	2w	163		52		61		72	
614A: Chenoa-----	1	174		57		68		92	
696A: Zurich-----	1	163		51		60		78	
696B: Zurich-----	2e	161		50		59		77	
696C2: Zurich, eroded-----	3e	153		48		56		73	
696D2: Zurich, eroded-----	3e	150		47		55		72	
697A: Wauconda-----	2w	181		57		66		94	
698B: Grays-----	2e	166		53		64		86	
740A: Darroch-----	1	177		57		70		92	
741B: Oakville-----	4s	106		38		47		52	
741D: Oakville-----	4e	103		36		45		51	
800A: Psamments, nearly level	4s	---		---		---		---	
802A: Orthents, loamy, nearly level-----	2s	94		32		35		56	
802B: Orthents, loamy, undulating-----	3e	93		32		35		55	
802D: Orthents, loamy, rolling	4e	90		31		34		54	

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Gra
		Bu	Bu	Bu	Bu	
805A: Orthents, clayey, nearly level-----	4s	85	29	31	52	
805B: Orthents, clayey, undulating-----	4s	84	29	31	51	
805D: Orthents, clayey, rolling-----	4e	82	28	30	50	
807A: Orthents, loamy-skeletal, nearly level-----	7s	---	---	---	---	
807B: Orthents, loamy-skeletal, undulating-----	7s	---	---	---	---	
811A: Alfic Udarents, clayey--	2s	---	---	---	---	
811B: Alfic Udarents, clayey--	3e	---	---	---	---	
811D: Alfic Udarents, clayey--	4e	---	---	---	---	
822A-----	2s	---	---	---	---	
Alfic Udarents, clayey--	2s	---	---	---	---	
Elliott-----						
822B-----	2e	---	---	---	---	
Alfic Udarents, clayey--	2e	---	---	---	---	
Elliott-----						
830. Landfills						
848B-----	2w	---	---	---	---	
Drummer-----	3e					
Barrington-----	1					
Mundelein-----						

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Gra
849A----- Milford----- Martinton-----	2w 1	Bu ---	Bu ---	Bu ---	Bu ---	
854B----- Markham----- Ashkum----- Beecher-----	3e 2w 2e	---	---	---	---	
862. Pits, sand						
863. Pits, clay						
864. Pits, quarry						
865. Pits, gravel						
903A----- Muskego----- Houghton-----	3w 3w	155	50	---	---	
925B----- Frankfort----- Bryce-----	3e 3w	---	---	---	---	
969E2----- Casco, eroded----- Rodman, eroded-----	4e 4e	98	33	38	42	
969F----- Casco----- Rodman-----	6e 6e	---	---	---	---	
973A----- Hoopeston----- Selma-----	2s 2w	---	---	---	---	
1103A: Houghton, undrained-----	5w	---	---	---	---	
1107A: Sawmill, undrained, frequently flooded-----	5w	---	---	---	---	

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Gra
		Bu	Bu	Bu	Bu	
1330A: Peotone, undrained-----	5w	---	---	---	---	
1409A: Aqents, clayey, undrained-----	5w	---	---	---	---	
1516A: Faxon, undrained, frequently flooded-----	5w	---	---	---	---	
1903A-----	5w	---	---	---	---	
Muskego-----	5w	---	---	---	---	
Houghton-----	5w	---	---	---	---	
2023B-----	2e	---	---	---	---	
Alfic Udarents, clayey--	8	---	---	---	---	
Urban land-----	2e	---	---	---	---	
Blount-----						
2049A-----	2s	---	---	---	---	
Orthents, loamy-----	8	---	---	---	---	
Urban land-----	3s	---	---	---	---	
Watseka-----						
2223B-----	2e	---	---	---	---	
Alfic Udarents, clayey--	8	---	---	---	---	
Urban land-----	2e	---	---	---	---	
Varna-----						
2232A-----	4s	---	---	---	---	
Orthents, clayey-----	8	---	---	---	---	
Urban land-----	2w	---	---	---	---	
Ashkum-----						
2530B-----	2e	---	---	---	---	
Alfic Udarents, clayey--	8	---	---	---	---	
Urban land-----	2e	---	---	---	---	
Ozaukee-----						
2530D-----	4e	---	---	---	---	
Alfic Udarents, clayey--	8	---	---	---	---	
Urban land-----	3e	---	---	---	---	
Ozaukee-----						

See footnote at end of table.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Gra
		Bu	Bu	Bu	Bu	
2571A-----						
Orthents, loamy-----	2s	---	---	---	---	
Urban land-----	8					
Whitaker-----	2w					
2740A-----						
Orthents, loamy-----	2s	---	---	---	---	
Urban land-----	8					
Darroch-----	1					
2800A-----						
Urban land-----	8	---	---	---	---	
Psamments, nearly level	4s					
2800B-----						
Urban land-----	8	---	---	---	---	
Psamments, gently sloping-----	4s					
2811A-----						
Urban land-----	8	---	---	---	---	
Alfic Udarents, clayey--	2s					
2811B-----						
Urban land-----	8	---	---	---	---	
Alfic Udarents, clayey--	3e					
2822A-----						
Alfic Udarents, clayey--	2s	---	---	---	---	
Urban land-----	8					
Elliott-----	2s					
2822B-----						
Alfic Udarents, clayey--	2e	---	---	---	---	
Urban land-----	8					
Elliott-----	2e					
3107A:						
Sawmill, frequently flooded-----	3w	170	54	64	88	
3316A:						
Romeo-----	5s	61	23	34	44	

See footnote at end of table.

Table 6.-Land Capability and Yields per Acre of Crops and Pasture-Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Gra
3451A: Lawson, frequently flooded-----	3w	Bu 171	Bu 55	Bu 66	Bu 87	
4904A----- Muskego, ponded----- Peotone, ponded-----	7w 7w	---	---	---	---	
M-W. Miscellaneous water						
W. Water						

* Animal unit month: The amount of forage required to feed one mature cow, of approximate weight, with or without a calf, for 30 days.

Soil Survey of Cook County, Illinois

Table 7.—Prime Farmland and Other Important Farmland

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, such as "where drained," these conditions are specified)

Map symbol	Map unit name	Farmland classification
23A	Blount silt loam, 0 to 2 percent slopes	Prime farmland (where drained)
23B	Blount silt loam, 2 to 4 percent slopes	Prime farmland
49A	Watseka loamy fine sand, 0 to 2 percent slopes	Farmland of statewide importance
67A	Harpster silty clay loam, 0 to 2 percent slopes	Prime farmland (where drained)
69A	Milford silty clay loam, 0 to 2 percent slopes	Prime farmland (where drained)
91A	Swygert silty clay loam, 0 to 2 percent slopes	Prime farmland
91B	Swygert silty clay loam, 2 to 4 percent slopes	Prime farmland
103A	Houghton muck, 0 to 2 percent slopes	Farmland of statewide importance
125A	Selma loam, 0 to 2 percent slopes	Prime farmland (where drained)
141A	Wesley fine sandy loam, 0 to 2 percent slopes	Prime farmland
146A	Elliott silt loam, 0 to 2 percent slopes	Prime farmland
146B	Elliott silt loam, 2 to 4 percent slopes	Prime farmland
152A	Drummer silty clay loam, 0 to 2 percent slopes	Prime farmland (where drained)
153A	Pella silty clay loam, 0 to 2 percent slopes	Prime farmland (where drained)
172A	Hoopeston fine sandy loam, 0 to 2 percent slopes	Prime farmland
189A	Martinton silt loam, 0 to 2 percent slopes	Prime farmland
192A	Del Rey silt loam, 0 to 2 percent slopes	Prime farmland (where drained)
201A	Gilford fine sandy loam, 0 to 2 percent slopes	Prime farmland (where drained)
206A	Thorp silt loam, 0 to 2 percent slopes	Prime farmland (where drained)
223B	Varna silt loam, 2 to 4 percent slopes	Prime farmland
223C2	Varna silt loam, 4 to 6 percent slopes, eroded	Prime farmland
228A	Nappanee silt loam, 0 to 2 percent slopes	Prime farmland (where drained)
228B	Nappanee silt loam, 2 to 4 percent slopes	Prime farmland
228C2	Nappanee silty clay loam, 4 to 6 percent slopes, eroded	Farmland of statewide importance
232A	Ashkum silty clay loam, 0 to 2 percent slopes	Prime farmland (where drained)
235A	Bryce silty clay, 0 to 2 percent slopes	Prime farmland (where drained)
290B	Warsaw silt loam, 2 to 4 percent slopes	Prime farmland
293A	Andres silt loam, 0 to 2 percent slopes	Prime farmland
294B	Symerton silt loam, 2 to 5 percent slopes	Prime farmland
295A	Mokena silt loam, 0 to 2 percent slopes	Prime farmland
298A	Beecher silt loam, 0 to 2 percent slopes	Prime farmland (where drained)
298B	Beecher silt loam, 2 to 4 percent slopes	Prime farmland
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded	Farmland of statewide importance
318D2	Lorenzo loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
320A	Frankfort silt loam, 0 to 2 percent slopes	Prime farmland (where drained)
320B	Frankfort silt loam, 2 to 4 percent slopes	Prime farmland
320C2	Frankfort silty clay loam, 4 to 6 percent slopes, eroded	Farmland of statewide importance
327A	Fox silt loam, 0 to 2 percent slopes	Prime farmland
327B	Fox silt loam, 2 to 4 percent slopes	Prime farmland
327C2	Fox silt loam, 4 to 6 percent slopes, eroded	Prime farmland
329A	Will silty clay loam, 0 to 2 percent slopes	Prime farmland (where drained)
330A	Peotone silty clay loam, 0 to 2 percent slopes	Prime farmland (where drained)
343A	Kane silt loam, 0 to 2 percent slopes	Prime farmland
361B	Kidder loam, 2 to 4 percent slopes	Prime farmland
361C2	Kidder loam, 4 to 6 percent slopes, eroded	Prime farmland
361D2	Kidder loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
363B	Griswold loam, 2 to 4 percent slopes	Prime farmland
363C2	Griswold loam, 4 to 6 percent slopes, eroded	Prime farmland
369B	Waupecan silt loam, 2 to 4 percent slopes	Prime farmland
370B	Saylesville silt loam, 2 to 4 percent slopes	Prime farmland
442A	Mundelein silt loam, 0 to 2 percent slopes	Prime farmland
443B	Barrington silt loam, 2 to 4 percent slopes	Prime farmland
494B	Kankakee fine sandy loam, 2 to 4 percent slopes	Prime farmland
503B	Rockton silt loam, 2 to 6 percent slopes	Prime farmland
523A	Dunham silty clay loam, 0 to 2 percent slopes	Prime farmland (where drained)
526A	Grundelein silt loam, 0 to 2 percent slopes	Prime farmland
530B	Ozaukee silt loam, 2 to 4 percent slopes	Prime farmland
530C	Ozaukee silt loam, 4 to 6 percent slopes	Prime farmland

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Table 7.—Prime Farmland and Other Important Farmland—Continued

Map symbol	Map unit name	Farmland classification
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded	Prime farmland
530D2	Ozaukee silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
530D3	Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded	Farmland of statewide importance
531B	Markham silt loam, 2 to 4 percent slopes	Prime farmland
531C2	Markham silt loam, 4 to 6 percent slopes, eroded	Prime farmland
531D2	Markham silt loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
541B	Graymont silt loam, 2 to 5 percent slopes	Prime farmland
560D2	St. Clair silty clay loam, 6 to 12 percent slopes, eroded	Farmland of statewide importance
571A	Whitaker loam, 0 to 2 percent slopes	Prime farmland
614A	Chenoa silty clay loam, 0 to 2 percent slopes	Prime farmland
696A	Zurich silt loam, 0 to 2 percent slopes	Prime farmland
696B	Zurich silt loam, 2 to 4 percent slopes	Prime farmland
697A	Wauconda silt loam, 0 to 2 percent slopes	Prime farmland (where drained)
698B	Grays silt loam, 2 to 4 percent slopes	Prime farmland
740A	Darroch silt loam, 0 to 2 percent slopes	Prime farmland
741B	Oakville fine sand, 1 to 6 percent slopes	Farmland of statewide importance
903A	Muskego and Houghton mucks, 0 to 2 percent slopes	Farmland of statewide importance
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Prime farmland (where drained and either protected from flooding or not frequently flooded during the growing season)
3316A	Romeo silt loam, 0 to 2 percent slopes, frequently flooded	Farmland of statewide importance
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded	Prime farmland where protected from flooding or not frequently flooded during the growing season)

Soil Survey of Cook County, Illinois

Table 8.—Hydric Soils

(Only the hydric components in any map unit are listed. A few of the hydric soils listed may not be mapped in this survey area but are part of the map unit concept for the MLRA. See text for descriptions of hydric qualities and definitions of the codes in the hydric criteria column)

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
23A: Blount silt loam, 0 to 2 percent slopes	Ashkum	4	Ground moraines	2B3
23B: Blount silt loam, 2 to 4 percent slopes	Ashkum	4	Ground moraines	2B3
49A: Watseka loamy fine sand, 0 to 2 percent slopes	Gilford	2	Outwash plains	2B3
	Granby	2	Swales	2B3
67A: Harpster silty clay loam, 0 to 2 percent slopes	Harpster	98	Ground moraines	2B3
	Houghton	1	Ground moraines	1
69A: Milford silty clay loam, 0 to 2 percent slopes	Milford	93	Lake plains	2B3
	Houghton	1	Ground moraines	1
91A: Swygert silty clay loam, 0 to 2 percent slopes	Bryce	2	Ground moraines	2B3
	Streator	2	Ground moraines	2B3
91B: Swygert silty clay loam, 2 to 4 percent slopes	Bryce	4	Ground moraines	2B3
103A: Houghton muck, 0 to 2 percent slopes	Houghton	90	Ground moraines	1
	Selma	4	Outwash plains	2B3
	Hooppole	3	Swales	2B3
	Lena	3	Depressions	1
125A: Selma loam, 0 to 2 percent slopes	Selma	92	Outwash plains	2B3
	Houghton	1	Ground moraines	1
141A: Wesley fine sandy loam, 0 to 2 percent slopes	Milford	3	Lake plains	2B3
146A: Elliott silt loam, 0 to 2 percent slopes	Ashkum	4	Ground moraines	2B3
146B: Elliott silt loam, 2 to 4 percent slopes	Ashkum	4	Ground moraines	2B3
152A: Drummer silty clay loam, 0 to 2 percent slopes	Drummer	90	Outwash plains	2B3
	Harpster	3	Ground moraines	2B3
	Houghton	1	Ground moraines	1

Soil Survey of Cook County, Illinois

Table 8.—Hydric Soils—Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
153A: Pella silty clay loam, 0 to 2 percent slopes	Pella Harpster Houghton	90 3 1	Outwash plains Ground moraines Ground moraines	2B3 2B3 1
172A: Hoopeston fine sandy loam, 0 to 2 percent slopes	Gilford	3	Outwash plains	2B3
189A: Martinton silt loam, 0 to 2 percent slopes	Milford	4	Lake plains	2B3
192A: Del Rey silt loam, 0 to 2 percent slopes	Milford Montgomery	2 2	Lake plains Swales	2B3 2B3
201A: Gilford fine sandy loam, 0 to 2 percent slopes	Gilford Fieldon	94 2	Outwash plains Swales	2B3 2B3
206A: Thorp silt loam, 0 to 2 percent slopes	Thorp Peotone	94 3	Outwash plains Ground moraines	2B3 2B3
223B: Varna silt loam, 2 to 4 percent slopes	Ashkum	4	Ground moraines	2B3
228A: Nappanee silt loam, 0 to 2 percent slopes	Bryce Montgomery	4 2	Ground moraines Swales	2B3 2B3
228B: Nappanee silt loam, 2 to 4 percent slopes	Bryce Montgomery	4 2	Ground moraines Swales	2B3 2B3
228C2: Nappanee silty clay loam, 4 to 6 percent slopes, eroded	Bryce Montgomery	4 2	Ground moraines Swales	2B3 2B3
232A: Ashkum silty clay loam, 0 to 2 percent slopes	Ashkum Houghton	90 2	Ground moraines Ground moraines	2B3 1
235A: Bryce silty clay, 0 to 2 percent slopes	Bryce Rantoul	94 2	Ground moraines Depressions	2B3 2B3, 3
293A: Andres silt loam, 0 to 2 percent slopes	Ashkum Reddick	3 3	Ground moraines Swales	2B3 2B3
294B: Symerton silt loam, 2 to 5 percent slopes	Ashkum Reddick	3 3	Ground moraines Swales	2B3 2B3
295A: Mokena silt loam, 0 to 2 percent slopes	Bryce	6	Ground moraines	2B3

Soil Survey of Cook County, Illinois

Table 8.—Hydric Soils—Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
298A: Beecher silt loam, 0 to 2 percent slopes	Ashkum	4	Ground moraines	2B3
298B: Beecher silt loam, 2 to 4 percent slopes	Ashkum	4	Ground moraines	2B3
320A: Frankfort silt loam, 0 to 2 percent slopes	Bryce	4	Ground moraines	2B3
	Montgomery	2	Swales	2B3
320B: Frankfort silt loam, 2 to 4 percent slopes	Bryce	4	Ground moraines	2B3
	Montgomery	2	Swales	2B3
320C2: Frankfort silty clay loam, 4 to 6 percent slopes, eroded	Bryce	4	Ground moraines	2B3
329A: Will silty clay loam, 0 to 2 percent slopes	Will	94	Outwash plains	2B3
	Houghton	2	Ground moraines	1
330A: Peotone silty clay loam, 0 to 2 percent slopes	Peotone	94	Ground moraines	2B3
	Houghton	2	Ground moraines	1
343A: Kane silt loam, 0 to 2 percent slopes	Will	4	Outwash plains	2B3
370B: Saylesville silt loam, 2 to 4 percent slopes	Ashkum	4	Ground moraines	2B3
442A: Mundelein silt loam, 0 to 2 percent slopes	Drummer	4	Outwash plains	2B3
	Pella	2	Outwash plains	2B3
443B: Barrington silt loam, 2 to 4 percent slopes	Drummer	4	Outwash plains	2B3
	Pella	2	Outwash plains	2B3
494B: Kankakee fine sandy loam, 2 to 4 percent slopes	Gilford	2	Outwash plains	2B3
	Tallmadge	2	Swales	2B3
523A: Dunham silty clay loam, 0 to 2 percent slopes	Dunham	92	Outwash plains	2B3
	Houghton	2	Ground moraines	1
	Millsdale	2	Swales	2B3
526A: Grundelein silt loam, 0 to 2 percent slopes	Dunham	5	Outwash plains	2B3
529A: Selmass loam, 0 to 2 percent slopes	Selmass	92	Valley trains	2B3
	Houghton	1	Ground moraines	1

Soil Survey of Cook County, Illinois

Table 8.—Hydric Soils—Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
530B: Ozaukee silt loam, 2 to 4 percent slopes	Ashkum	4	Ground moraines	2B3
531B: Markham silt loam, 2 to 4 percent slopes	Ashkum	4	Ground moraines	2B3
534A: Urban land-Orthents, clayey, complex, nearly level	Ashkum Aquents, clayey	3 2	Ground moraines Lake plains	2B3 2B3
534B: Urban land-Orthents, clayey, complex, gently sloping	Ashkum Aquents, clayey	3 2	Ground moraines Lake plains	2B3 2B3
535B: Orthents, undulating, stony	Aquents, clayey	2	Lake plains	2B3
541B: Graymont silt loam, 2 to 5 percent slopes	Elpaso	4	End moraines, ground moraines	2B3
571A: Whitaker loam, 0 to 2 percent slopes	Selma	4	Outwash plains	2B3
614A: Chenoa silty clay loam, 0 to 2 percent slopes	Elpaso	4	End moraines, ground moraines	2B3
696A: Zurich silt loam, 0 to 2 percent slopes	Drummer Pella	2 2	Outwash plains Outwash plains	2B3 2B3
696B: Zurich silt loam, 2 to 4 percent slopes	Drummer Pella	2 2	Outwash plains Outwash plains	2B3 2B3
697A: Wauconda silt loam, 0 to 2 percent slopes	Drummer Pella	2 2	Outwash plains Outwash plains	2B3 2B3
698B: Grays silt loam, 2 to 4 percent slopes	Drummer Pella	2 2	Outwash plains Outwash plains	2B3 2B3
740A: Darroch silt loam, 0 to 2 percent slopes	Selma	4	Outwash plains	2B3
802A: Orthents, loamy, nearly level	Drummer Pella	1 1	Outwash plains Outwash plains	2B3 2B3
802B: Orthents, loamy, undulating	Drummer Pella	1 1	Outwash plains Outwash plains	2B3 2B3
805A: Orthents, clayey, nearly level	Ashkum Aquents, clayey	4 2	Ground moraines Lake plains	2B3 2B3

Soil Survey of Cook County, Illinois

Table 8.—Hydric Soils—Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
805B: Orthents, clayey, undulating	Ashkum	3	Ground moraines	2B3
	Bryce	2	Ground moraines	2B3
	Aquents, clayey	1	Lake plains	2B3
805D: Orthents, clayey, rolling	Aquents, clayey	1	Lake plains	2B3
811A: Alfic Udarents, clayey, 0 to 2 percent slopes	Ashkum	4	Ground moraines	2B3
811B: Alfic Udarents, clayey, 2 to 6 percent slopes	Ashkum	4	Ground moraines	2B3
822A: Alfic Udarents, clayey-Elliott complex, 0 to 2 percent slopes	Ashkum	5	Ground moraines	2B3
822B: Alfic Udarents, clayey-Elliott complex, 2 to 4 percent slopes	Ashkum	5	Ground moraines	2B3
848B: Drummer-Barrington-Mundelein complex, 1 to 6 percent slopes	Drummer	40	Outwash plains	2B3
849A: Milford-Martinton complex, 0 to 2 percent slopes	Milford	54	Lake plains	2B3
	Houghton	1	Ground moraines	1
854B: Markham-Ashkum-Beecher complex, 1 to 6 percent slopes	Ashkum	30	Ground moraines	2B3
864: Pits, quarry	Faxon	2	Flood plains	2B3
	Romeo	2	Flood plains	2B3
865: Pits, gravel	Drummer	2	Outwash plains	2B3
	Dunham	2	Outwash plains	2B3
903A: Muskego and Houghton mucks, 0 to 2 percent slopes	Muskego	60	Depressions	1
	Houghton	35	Depressions	1
	Drummer	5	Outwash plains	2B3
925B: Frankfort-Bryce complex, 1 to 6 percent slopes	Bryce	42	Ground moraines	2B3
973A: Hoopeston-Selma complex, 0 to 2 percent slopes	Selma	45	Outwash plains	2B3
1103A: Houghton muck, undrained, 0 to 2 percent slopes	Houghton, undrained	91	Ground moraines	3, 1
	Drummer, undrained	3	Outwash plains	2B3, 3
	Lena, undrained	3	Depressions	1, 3
	Pella, undrained	3	Outwash plains	2B3, 3

Soil Survey of Cook County, Illinois

Table 8.—Hydric Soils—Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
1107A: Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded	Sawmill, undrained, frequently flooded	95	Flood plains	3, 2B3
	Millington	4	Flood plains	2B3, 3
	Houghton, undrained	1	Ground moraines	1, 3
1330A: Peotone silty clay loam, undrained, 0 to 2 percent slopes	Peotone, undrained	95	Depressions	2B3, 3
	Houghton, undrained	5	Ground moraines	3, 1
1409A: Aquents, clayey, undrained, nearly level	Aquents, clayey, undrained	91	Lake plains	2B3, 3
1516A: Faxon silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded	Faxon, undrained, frequently flooded	95	Flood plains	3, 2B3
	Romeo	5	Flood plains	3, 2B3
1903A: Muskego and Houghton mucks, undrained, 0 to 2 percent slopes	Muskego	50	Depressions	1, 3
	Houghton	45	Depressions	3, 1
	Drummer	5	Outwash plains	3, 2B3
2023B: Alfic Udarents, clayey-Urban land-Blount complex, 2 to 4 percent slopes	Ashkum	5	Ground moraines	2B3
2049A: Orthents, loamy-Urban land-Watseka complex, 0 to 2 percent slopes	Gilford	5	Outwash plains	2B3
2223B: Alfic Udarents, clayey-Urban land-Varna complex, 2 to 4 percent slopes	Ashkum	5	Ground moraines	2B3
2232A: Orthents, clayey-Urban land-Ashkum complex, 0 to 2 percent slopes	Ashkum	15	Ground moraines	2B3
2530B: Alfic Udarents, clayey-Urban land-Ozaukee complex, 2 to 4 percent slopes	Ashkum	5	Ground moraines	2B3
2571A: Orthents, loamy-Urban land-Whitaker complex, 0 to 2 percent slopes	Selma	5	Outwash plains	2B3
2740A: Orthents, loamy-Urban land-Darroch complex, 0 to 2 percent slopes	Selma	5	Outwash plains	2B3
2811A: Urban land-Alfic Udarents, clayey, complex, 0 to 2 percent slopes	Ashkum	5	Ground moraines	2B3

Soil Survey of Cook County, Illinois

Table 8.—Hydric Soils—Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
2811B: Urban land-Alfic Udarents, clayey, complex, 2 to 6 percent slopes	Ashkum	5	Ground moraines	2B3
2822A: Alfic Udarents, clayey-Urban land-Elliott complex, 0 to 2 percent slopes	Ashkum	5	Ground moraines	2B3
2822B: Alfic Udarents, clayey-Urban land-Elliott complex, 2 to 4 percent slopes	Ashkum	5	Ground moraines	2B3
3107A: Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill, frequently flooded	95	Flood plains	2B3
	Millington	5	Flood plains	2B3
3316A: Romeo silt loam, 0 to 2 percent slopes, frequently flooded	Romeo	92	Flood plains	2B3
	Sawmill, frequently flooded	3	Flood plains	2B3
3451A: Lawson silt loam, 0 to 2 percent slopes, frequently flooded	Sawmill, frequently flooded	5	Flood plains	2B3
4904A: Muskego and Peotone soils, ponded, 0 to 2 percent slopes	Muskego, ponded	53	Depressions	3, 1
	Peotone, ponded	42	Depressions	3, 2B3

Soil Survey of Cook County, Illinois

Table 9.—Forestland Productivity

(Only the soils commonly used for production of commercial trees are listed)

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
23A: Blount-----	Northern red oak----	57	43	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
23B: Blount-----	Northern red oak----	57	43	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
54B: Plainfield-----	Black cherry-----	---	---	Common hackberry, eastern redcedar, eastern white pine, red maple, red pine, shortleaf pine
103A: Houghton-----	Silver maple-----	82	29	Eastern cottonwood, pin oak, swamp white oak
192A: Del Rey-----	Northern red oak----	56	43	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
228A: Nappanee-----	Pin oak-----	85	72	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
228B: Nappanee-----	Pin oak-----	85	72	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
228C2: Nappanee, eroded-----	Pin oak-----	85	72	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar

Soil Survey of Cook County, Illinois

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
298A: Beecher-----	Northern red oak----	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Black cherry-----	---	---	
	Bur oak-----	---	---	
	Northern pin oak----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	
298B: Beecher-----	Northern red oak----	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Black cherry-----	---	---	
	Bur oak-----	---	---	
	Northern pin oak----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	
320A: Frankfort-----	Northern red oak----	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	White oak-----	70	57	
	Bur oak-----	---	---	
	Green ash-----	---	---	
320B: Frankfort-----	Northern red oak----	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	White oak-----	70	57	
	Bur oak-----	---	---	
	Green ash-----	---	---	
320C2: Frankfort, eroded-----	Bur oak-----	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Green ash-----	---	---	
	Northern red oak----	70	57	
	White oak-----	70	57	
327A: Fox-----	Northern red oak----	65	57	Black oak, common hackberry, eastern white pine
	Black cherry-----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
327B: Fox-----	Northern red oak----	65	57	Black oak, common hackberry, eastern white pine
	Black cherry-----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
327C2: Fox, eroded-----	Northern red oak----	65	57	Black oak, common hackberry, eastern white pine
	Black cherry-----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	

Soil Survey of Cook County, Illinois

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
361B: Kidder-----	Northern red oak----	63	57	Black walnut, bur oak, eastern white pine, pecan, pin oak
	Shagbark hickory----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
361C2: Kidder, eroded-----	Northern red oak----	63	57	Black walnut, bur oak, eastern white pine, pecan, pin oak
	Shagbark hickory----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
361D2: Kidder, eroded-----	Northern red oak----	63	57	Black walnut, bur oak, eastern white pine, pecan, pin oak
	Shagbark hickory----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
361E2: Kidder, eroded-----	Northern red oak----	63	57	Black walnut, bur oak, eastern white pine, pecan, pin oak
	Shagbark hickory----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
370B: Saylesville-----	Northern red oak----	75	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, white oak
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
530B: Ozaukee-----	Northern red oak----	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	American basswood----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
530C: Ozaukee-----	Northern red oak----	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	American basswood----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
530C2: Ozaukee-----	Northern red oak----	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	American basswood----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
530D: Ozaukee-----	Northern red oak----	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	American basswood----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	

Soil Survey of Cook County, Illinois

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
530D2: Ozaukee-----	Northern red oak----	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	American basswood----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
530D3: Ozaukee-----	American basswood----	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Northern red oak----	66	57	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
530E: Ozaukee-----	Northern red oak----	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	American basswood----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
530F: Ozaukee-----	Northern red oak----	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	American basswood----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
531B: Markham-----	Northern red oak----	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Black cherry-----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	
531C2: Markham, eroded-----	Northern red oak----	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Black cherry-----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	
531D2: Markham, eroded-----	Northern red oak----	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Black cherry-----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	
560D2: St. Clair, eroded-----	Northern red oak----	66	43	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	62	43	

Soil Survey of Cook County, Illinois

Table 9.-Forestland Productivity-Continued

Map symbol and soil name	Potential productivity		Volume of wood fiber cu ft/ac	Trees to manage
	Common trees	Site index		
571A: Whitaker-----	Northern red oak----	75	57	Common hackberry,
	Pin oak-----	85	72	common persimmon,
	Sweetgum-----	80	86	eastern
	Tuliptree-----	85	86	cottonwood,
	White oak-----	70	57	pecan, pin oak,
				swamp white oak
696A: Zurich-----	Northern red oak----	80	57	Black walnut,
	White oak-----	80	57	eastern
	Sugar maple-----	66	43	cottonwood,
	American basswood---	---	---	eastern white
	White ash-----	---	---	pine, northern
				red oak, pecan,
				pin oak, white oak
696B: Zurich-----	Northern red oak----	80	57	Black walnut,
	White oak-----	80	57	eastern
	Sugar maple-----	66	43	cottonwood,
	American basswood---	---	---	eastern white
	White ash-----	---	---	pine, northern
				red oak, pecan,
				pin oak, white oak
696C2: Zurich, eroded-----	Northern red oak----	80	57	Black walnut,
	White oak-----	80	57	eastern
	Sugar maple-----	66	43	cottonwood,
	American basswood---	---	---	eastern white
	White ash-----	---	---	pine, northern
				red oak, pecan,
				pin oak, white oak
696D2: Zurich, eroded-----	Northern red oak----	80	57	Black walnut,
	White oak-----	80	57	eastern
	Sugar maple-----	66	43	cottonwood,
	American basswood---	---	---	eastern white
	White ash-----	---	---	pine, northern
				red oak, pecan,
				pin oak, white oak
697A: Wauconda-----	Northern red oak----	80	57	Common hackberry,
	White oak-----	80	57	eastern
	Black walnut-----	---	---	cottonwood,
	Shagbark hickory----	---	---	pecan, pin oak,
				swamp white oak
698B: Grays-----	Northern red oak----	80	57	Black walnut,
	White oak-----	80	57	eastern
	Black walnut-----	---	---	cottonwood,
	Shagbark hickory----	---	---	eastern white
				pine, northern
				red oak, pecan,
				pin oak, white oak

Soil Survey of Cook County, Illinois

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
741B: Oakville-----	Eastern white pine--	85	200	Common hackberry, eastern redcedar, eastern white pine, red maple
	Jack pine-----	68	100	
	Red pine-----	78	143	
	White oak-----	70	57	
741D: Oakville-----	Eastern white pine--	85	200	Common hackberry, eastern redcedar, eastern white pine, red maple
	Jack pine-----	68	100	
	Red pine-----	78	143	
	White oak-----	70	57	
854B: Markham-----	Northern red oak----	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Black cherry-----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	
Ashkum.				
Beecher-----	Northern red oak----	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Black cherry-----	---	---	
	Bur oak-----	---	---	
	Northern pin oak----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	
903A: Muskego-----	Silver maple-----	82	29	Eastern cottonwood, pin oak, swamp white oak
	Willow-----	---	---	
Houghton-----	Silver maple-----	82	29	Eastern cottonwood, pin oak, swamp white oak
	Arborvitae-----	37	57	
	Green ash-----	---	---	
	Quaking aspen-----	60	57	
	Red maple-----	56	29	
	White ash-----	56	43	
925B: Frankfort-----	Northern red oak----	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	White oak-----	70	57	
	Bur oak-----	---	---	
	Green ash-----	---	---	
Bryce.				
969E2: Casco, eroded-----	Black oak-----	---	---	Black oak, common hackberry, eastern white pine
	Northern red oak----	55	43	
	Shagbark hickory----	---	---	
Rodman, eroded-----	Northern red oak----	45	29	Bur oak, chinkapin oak, eastern redcedar
	Red pine-----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	

Soil Survey of Cook County, Illinois

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity		Volume of wood fiber cu ft/ac	Trees to manage
	Common trees	Site index		
969F: Casco-----	Black oak----- Northern red oak---- Shagbark hickory----	--- 55 ---	--- 43 ---	Black oak, common hackberry, eastern white pine
Rodman-----	Northern red oak---- Red pine----- Shagbark hickory---- White oak-----	45 --- --- ---	29 --- --- ---	Bur oak, chinkapin oak, eastern redcedar
1103A: Houghton, undrained-----	Silver maple----- Quaking aspen----- White ash----- Red maple----- Arborvitae----- Green ash-----	82 60 56 56 37 ---	29 57 43 29 57 ---	Eastern cottonwood, pin oak, swamp white oak
1107A: Sawmill, undrained, frequently flooded-----	Pin oak----- American sycamore---- Eastern cottonwood--	90 --- ---	72 --- ---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak
1903A: Muskego, undrained-----	Silver maple----- Willow-----	82 ---	29 ---	Eastern cottonwood, pin oak, swamp white oak
Houghton, undrained-----	Silver maple----- Arborvitae----- Green ash----- Quaking aspen----- Red maple----- White ash-----	82 37 --- 60 56 56	29 57 --- 57 29 43	Eastern cottonwood, pin oak, swamp white oak
2023B: Alfic Udarents, clayey. Urban land.				
Blount-----	Northern red oak---- White ash----- White oak----- Sugar maple-----	57 57 57 54	43 43 43 29	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
2530B: Alfic Udarents, clayey. Urban land.				
Ozaukee-----	Northern red oak---- American basswood--- Shagbark hickory---- Sugar maple----- White ash-----	66 --- --- --- ---	57 --- --- --- ---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar

Soil Survey of Cook County, Illinois

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
2530D: Alfic Udarents, clayey. Urban land.				
Ozaukee-----	Northern red oak----	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	American basswood----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
2571A: Orthents, loamy. Urban land.				
Whitaker-----	Northern red oak----	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak
	Pin oak-----	85	72	
	Sweetgum-----	80	86	
	Tuliptree-----	85	86	
	White oak-----	70	57	
3107A: Sawmill, frequently flooded-----	Pin oak-----	90	72	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak
	American sycamore----	---	---	
	Eastern cottonwood--	---	---	
3451A: Lawson, frequently flooded-----	Red maple-----	---	---	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	Silver maple-----	70	29	
	White ash-----	---	---	

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Well suited		Well suited		Moderately suited Low strength	0.50
23B: Blount-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
49A: Watseka-----	Well suited		Well suited		Well suited	
54B: Plainfield-----	Well suited		Well suited		Well suited	
67A: Harpster-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
69A: Milford-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
91A: Swygert-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
91B: Swygert-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
103A: Houghton-----	Well suited		Well suited		Poorly suited Low strength	1.00
125A: Selma-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
141A: Wesley-----	Well suited		Well suited		Well suited	
146A: Elliott-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
146B: Elliott-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
152A: Drummer-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
153A: Pella-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
172A: Hoopeston-----	Well suited		Well suited		Well suited	
189A: Martinton-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
192A: Del Rey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
201A: Gilford-----	Well suited		Well suited		Well suited	
206A: Thorp-----	Well suited		Well suited		Moderately suited Low strength	0.50
223B: Varna-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
223C2: Varna, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50	Moderately suited Low strength	0.50
228A: Nappanee-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
228B: Nappanee-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
228C2: Nappanee, eroded----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.50	Moderately suited Low strength	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
232A: Ashkum-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
235A: Bryce-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
241D3: Chatsworth, severely eroded----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
241E3: Chatsworth, severely eroded----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Slope Stickiness; high plasticity index	0.75 0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
290B: Warsaw-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
293A: Andres-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
294B: Symerton-----	Well suited		Well suited		Moderately suited Low strength	0.50
295A: Mokena-----	Well suited		Well suited		Moderately suited Low strength	0.50
298A: Beecher-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
298B: Beecher-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
318C2: Lorenzo, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
318D2: Lorenzo, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
320A: Frankfort-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
320B: Frankfort-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
320C2: Frankfort, eroded---	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Moderately suited Low strength	0.50
327A: Fox-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
327B: Fox-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
327C2: Fox, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
329A: Will-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
330A: Peotone-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
343A: Kane-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
361B: Kidder-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
361C2: Kidder, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
361D2: Kidder, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
361E2: Kidder, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Poorly suited Slope Stickiness; high plasticity index	0.75 0.50	Moderately suited Low strength	0.50
363B: Griswold-----	Well suited		Well suited		Moderately suited Low strength	0.50
363C2: Griswold, eroded----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
367: Beaches-----	Not rated		Not rated		Not rated	
369B: Waupecan-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
370B: Saylesville-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
392A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, nearly level-----	Well suited		Well suited		Moderately suited Low strength	0.50
392B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, gently sloping-----	Well suited		Well suited		Moderately suited Low strength	0.50
442A: Mundelein-----	Well suited		Well suited		Moderately suited Low strength	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
443B: Barrington-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
494B: Kankakee-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Well suited	
503B: Rockton-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
522B: Orthents, clayey, refuse substratum, undulating-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
522D: Orthents, clayey, refuse substratum, rolling-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Moderately suited Low strength	0.50
522F: Orthents, clayey, refuse substratum, steep-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Slope Stickiness; high plasticity index	0.75 0.75	Moderately suited Slope Low strength	0.50 0.50
523A: Dunham-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
526A: Grundelein-----	Well suited		Well suited		Moderately suited Low strength	0.50
529A: Selmass-----	Well suited		Well suited		Moderately suited Low strength	0.50
530B: Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
530C: Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530C2: Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50
530D: Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50
530D2: Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50
530D3: Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50
530E: Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Poorly suited Slope Stickiness; high plasticity index	0.75 0.50	Moderately suited Low strength	0.50
530F: Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Poorly suited Slope Stickiness; high plasticity index	0.75 0.50	Moderately suited Slope Low strength	0.50 0.50
531B: Markham-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
531C2: Markham, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50
531D2: Markham, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50
533: Urban land-----	Not rated		Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
534A: Orthents, clayey, nearly level-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
534B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, gently sloping-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
535B: Orthents, undulating, stony--	Well suited		Moderately suited Rock fragments	0.50	Moderately suited Low strength	0.50
541B: Graymont-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
560D2: St. Clair, eroded---	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Moderately suited Low strength	0.50
571A: Whitaker-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
614A: Chenoa-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
696A: Zurich-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
696B: Zurich-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
696C2: Zurich, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
696D2: Zurich, eroded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
697A: Wauconda-----	Well suited		Well suited		Moderately suited Low strength	0.50
698B: Grays-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
740A: Darroch-----	Well suited		Well suited		Moderately suited Low strength	0.50
741B: Oakville-----	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50
741D: Oakville-----	Moderately suited Sandiness	0.50	Moderately suited Slope Sandiness	0.50 0.50	Moderately suited Sandiness	0.50
800A: Psammets, nearly level-----	Well suited		Well suited		Moderately suited Low strength	0.50
802A: Orthents, loamy, nearly level-----	Well suited		Well suited		Moderately suited Low strength	0.50
802B: Orthents, loamy, undulating-----	Well suited		Well suited		Moderately suited Low strength	0.50
802D: Orthents, loamy, rolling-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
805A: Orthents, clayey, nearly level-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
805B: Orthents, clayey, undulating-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
805D: Orthents, clayey, rolling-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
807A: Orthents, loamy-skeletal, nearly level-----	Moderately suited Rock fragments	0.50	Unsuited Rock fragments	1.00	Well suited	
807B: Orthents, loamy-skeletal, undulating-----	Moderately suited Rock fragments	0.50	Unsuited Rock fragments	1.00	Well suited	
811A: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
811B: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
811D: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Moderately suited Low strength	0.50
822A: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Elliott-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
822B: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Elliott-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
830: Landfills-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
848B:						
Drummer-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Barrington-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Mundelein-----	Well suited		Well suited		Moderately suited Low strength	0.50
849A:						
Milford-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Martinton-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
854B:						
Markham-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Ashkum-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Beecher-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
862:						
Pits, sand-----	Not rated		Not rated		Not rated	
863:						
Pits, clay-----	Not rated		Not rated		Not rated	
864:						
Pits, quarry-----	Not rated		Not rated		Not rated	
865:						
Pits, gravel-----	Not rated		Not rated		Not rated	
903A:						
Muskego-----	Well suited		Well suited		Poorly suited Low strength	1.00
Houghton-----	Well suited		Well suited		Poorly suited Low strength	1.00
925B:						
Frankfort-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
Bryce-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
969E2:						
Casco, eroded-----	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high	0.50	Slope	0.75	Low strength	0.50
	plasticity index		Stickiness; high	0.50		
			plasticity index			
Rodman, eroded-----	Moderately suited		Poorly suited		Well suited	
	Rock fragments	0.50	Slope	0.75		
			Rock fragments	0.75		
969F:						
Casco-----	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high	0.50	Slope	0.75	Slope	0.50
	plasticity index		Stickiness; high	0.50	Low strength	0.50
			plasticity index			
Rodman-----	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Slope	0.50
973A:						
Hoopeston-----	Well suited		Well suited		Well suited	
Selma-----	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high	0.50	Stickiness; high	0.50	Low strength	0.50
	plasticity index		plasticity index			
1103A:						
Houghton, undrained	Poorly suited		Poorly suited		Poorly suited	
	Wetness	0.75	Wetness	0.75	Low strength	1.00
					Wetness	1.00
1107A:						
Sawmill, undrained, frequently flooded	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high	0.50	Stickiness; high	0.50	Low strength	0.50
	plasticity index		plasticity index			
1330A:						
Peotone, undrained--	Poorly suited		Poorly suited		Poorly suited	
	Wetness	0.75	Wetness	0.75	Wetness	1.00
	Stickiness; high	0.50	Stickiness; high	0.50	Low strength	0.50
	plasticity index		plasticity index			
1409A:						
Aquents, clayey, undrained-----	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high	0.50	Stickiness; high	0.50	Low strength	0.50
	plasticity index		plasticity index			
1516A:						
Faxon, undrained, frequently flooded	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high	0.50	Stickiness; high	0.50	Low strength	0.50
	plasticity index		plasticity index			
1903A:						
Muskego, undrained--	Poorly suited		Poorly suited		Poorly suited	
	Wetness	0.75	Wetness	0.75	Low strength	1.00
					Wetness	1.00

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1903A: Houghton, undrained	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Low strength Wetness	1.00 1.00
2023B: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Urban land-----	Not rated		Not rated		Not rated	
Blount-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
2049A: Orthents, loamy----	Well suited		Well suited		Moderately suited Low strength	0.50
Urban land-----	Not rated		Not rated		Not rated	
Watseka-----	Well suited		Well suited		Well suited	
2223B: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Urban land-----	Not rated		Not rated		Not rated	
Varna-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
2232A: Orthents, clayey----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength Stickiness; high plasticity index	0.50 0.50
Urban land-----	Not rated		Not rated		Not rated	
Ashkum-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
2530B: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2530D: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50	Moderately suited Low strength	0.50
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50	Moderately suited Low strength	0.50
2571A: Orthents, loamy----	Well suited		Well suited		Moderately suited Low strength	0.50
Urban land-----	Not rated		Not rated		Not rated	
Whitaker-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
2740A: Orthents, loamy----	Well suited		Well suited		Moderately suited Low strength	0.50
Urban land-----	Not rated		Not rated		Not rated	
Darroch-----	Well suited		Well suited		Moderately suited Low strength	0.50
2800A: Urban land-----	Not rated		Not rated		Not rated	
Psammments, nearly level-----	Well suited		Well suited		Moderately suited Low strength	0.50
2800B: Urban land-----	Not rated		Not rated		Not rated	
Psammments, gently sloping-----	Well suited		Well suited		Moderately suited Low strength	0.50
2811A: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
2811B: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50

Soil Survey of Cook County, Illinois

Table 10.—Forestland Management—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2822A: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Moderately suited Low strength	0.50
2822B: Alfic Udarents, clayey-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
3107A: Sawmill, frequently flooded-----	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
3316A: Romeo-----	Unsuited Restrictive layer	1.00	Unsuited Restrictive layer	1.00	Moderately suited Low strength	0.50
3451A: Lawson, frequently flooded-----	Well suited		Well suited		Moderately suited Low strength	0.50
4904A: Muskego, ponded-----	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Low strength Wetness	1.00 1.00
Peotone, ponded-----	Poorly suited Wetness Stickiness; high plasticity index	0.75 0.50	Poorly suited Wetness Stickiness; high plasticity index	0.75 0.50	Poorly suited Wetness Low strength	1.00 0.50
M-W: Miscellaneous water	Not rated		Not rated		Not rated	
W: Water-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
23A: Blount-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
23B: Blount-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
49A: Watseka-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
54B: Plainfield-----	American hazelnut; common elderberry; common winterberry; coralberry; mapleleaf viburnum; silky dogwood	Alternateteleaf dogwood; American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; southern arrowwood; staghorn sumac	Blue spruce; common hackberry; eastern redcedar; red maple; Washington hawthorn	Carolina poplar

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
67A: Harpster-----	Common winterberry; gray dogwood; redosier dogwood	Common pawpaw; nannyberry; roughleaf dogwood; silky dogwood	Arborvitae; bur oak; common hackberry; eastern redcedar; green hawthorn	Carolina poplar; eastern cottonwood
69A: Milford-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
91A: Swygert-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
91B: Swygert-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
103A: Houghton-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Common serviceberry; hazel alder; nannyberry; roughleaf dogwood	Arborvitae-----	Pin oak; river birch; swamp white oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
125A: Selma-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
141A: Wesley-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
146A: Elliott-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
146B: Elliott-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
152A: Drummer-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
153A: Pella-----	Common winterberry; gray dogwood; redosier dogwood	Common pawpaw; nannyberry; roughleaf dogwood; silky dogwood	Arborvitae; bur oak; common hackberry; eastern redcedar; green hawthorn	Carolina poplar; eastern cottonwood
172A: Hoopeston-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
189A: Martinton-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
192A: Del Rey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
201A: Gilford-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
206A: Thorp-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
223B: Varna-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
223C2: Varna, eroded-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
228A: Nappanee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
228B: Nappanee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
228C2: Nappanee, eroded---	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
232A: Ashkum-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
235A: Bryce-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
241D3: Chatsworth, severely eroded---	Coralberry; mapleleaf viburnum; redosier dogwood; roughleaf dogwood	American cranberrybush; bitternut hickory; bur oak; chinkapin oak; cockspur hawthorn; common chokecherry; eastern redcedar; Ohio buckeye	Austrian pine; common hackberry	Carolina poplar
241E3: Chatsworth, severely eroded---	Coralberry; mapleleaf viburnum; redosier dogwood; roughleaf dogwood	American cranberrybush; bitternut hickory; bur oak; chinkapin oak; cockspur hawthorn; common chokecherry; eastern redcedar; Ohio buckeye	Austrian pine; common hackberry	Carolina poplar
290B: Warsaw-----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
293A: Andres-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
294B: Symerton-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
295A: Mokena-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
298A: Beecher-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
298B: Beecher-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
318C2: Lorenzo, eroded----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar
318D2: Lorenzo, eroded----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar
320A: Frankfort-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
320B: Frankfort-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
320C2: Frankfort, eroded--	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
327A: Fox-----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar
327B: Fox-----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
327C2: Fox, eroded-----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar
329A: Will-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
330A: Peotone-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
343A: Kane-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
361B: Kidder-----	American hazelnut; black chokeberry; common winterberry; coralberry; gray dogwood; mapleleaf viburnum	American plum; American witchhazel; Arnold hawthorn; blackhaw; common chokecherry; common serviceberry; prairie crabapple	Arborvitae; black walnut; blackgum; blue spruce; bur oak; Douglas fir; eastern redcedar; pecan	Common hackberry; Norway spruce; pin oak
361C2: Kidder, eroded----	American hazelnut; black chokeberry; common winterberry; coralberry; gray dogwood; mapleleaf viburnum	American plum; American witchhazel; Arnold hawthorn; blackhaw; common chokecherry; common serviceberry; prairie crabapple	Arborvitae; black walnut; blackgum; blue spruce; bur oak; Douglas fir; eastern redcedar; pecan	Common hackberry; Norway spruce; pin oak
361D2: Kidder, eroded----	American hazelnut; black chokeberry; common winterberry; coralberry; gray dogwood; mapleleaf viburnum	American plum; American witchhazel; Arnold hawthorn; blackhaw; common chokecherry; common serviceberry; prairie crabapple	Arborvitae; black walnut; blackgum; blue spruce; bur oak; Douglas fir; eastern redcedar; pecan	Common hackberry; Norway spruce; pin oak
361E2: Kidder, eroded----	American hazelnut; black chokeberry; common winterberry; coralberry; gray dogwood; mapleleaf viburnum	American plum; American witchhazel; Arnold hawthorn; blackhaw; common chokecherry; common serviceberry; prairie crabapple	Arborvitae; black walnut; blackgum; blue spruce; bur oak; Douglas fir; eastern redcedar; pecan	Common hackberry; Norway spruce; pin oak
363B: Griswold-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
363C2: Griswold, eroded---	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
367. Beaches				
369B: Waupecan-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
370B: Saylesville-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
392A: Urban land.				
Orthents, loamy, nearly level-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
392B: Urban land. Orthents, loamy, gently sloping----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
442A: Mundelein-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
443B: Barrington-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
494B: Kankakee-----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
503B: Rockton-----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar
522B: Orthents, clayey, refuse substratum, undulating-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
522D: Orthents, clayey, refuse substratum, rolling-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
522F: Orthents, clayey, refuse substratum, steep-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
523A: Dunham-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
526A: Grundelein-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
529A: Selmass-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
530B: Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
530C: Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
530C2: Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
530D: Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
530D2: Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
530D3: Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
530E: Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
530F: Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
531B: Markham-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
531C2: Markham, eroded----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
531D2: Markham, eroded----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
533. Urban land				
534A: Urban land.				
Orthents, clayey, nearly level-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
534B: Urban land.				
Orthents, clayey, gently sloping----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
535B: Orthents, undulating stony--	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar
541B: Graymont-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
560D2: St. Clair, eroded--	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
571A: Whitaker-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; common persimmon; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak; sweetgum

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
614A: Chenoa-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
696A: Zurich-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
696B: Zurich-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
696C2: Zurich, eroded-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
696D2: Zurich, eroded-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
697A: Wauconda-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
698B: Grays-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
740A: Darroch-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
741B: Oakville-----	American hazelnut; common elderberry; common winterberry; coralberry; mapleleaf viburnum; silky dogwood	Alternatetealeaf dogwood; American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; southern arrowwood; staghorn sumac	Blue spruce; common hackberry; eastern redcedar; red maple; Washington hawthorn	Carolina poplar
741D: Oakville-----	American hazelnut; common elderberry; common winterberry; coralberry; mapleleaf viburnum; silky dogwood	Alternatetealeaf dogwood; American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; southern arrowwood; staghorn sumac	Blue spruce; common hackberry; eastern redcedar; red maple; Washington hawthorn	Carolina poplar
800A: Psumments, nearly level-----	American hazelnut; common elderberry; common winterberry; coralberry; mapleleaf viburnum; silky dogwood	Alternatetealeaf dogwood; American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; southern arrowwood; staghorn sumac	Blue spruce; common hackberry; eastern redcedar; red maple; Washington hawthorn	Carolina poplar; red pine
802A: Orthents, loamy, nearly level-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
802B: Orthents, loamy, undulating-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
802D: Orthents, loamy, rolling-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
805A: Orthents, clayey, nearly level-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
805B: Orthents, clayey, undulating-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
805D: Orthents, clayey, rolling-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
807A: Orthents, loamy-skeletal, nearly level-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
807B: Orthents, loamy-skeletal, undulating-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
811A: Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
811B: Alfic Udarents, Clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
811D: Alfic Udarents, Clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
822A: Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Elliott-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
822B: Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Elliott-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
830. Landfills				
848B: Drummer-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
Barrington-----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
848B: Mundelein-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
849A: Milford-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
Martinton-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
854B: Markham-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
854B: Ashkum-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
Beecher-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
862, 863, 864, 865. Pits				
903A: Muskego-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Common serviceberry; hazel alder; nannyberry; roughleaf dogwood	Arborvitae-----	Pin oak; river birch; swamp white oak
Houghton-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Common serviceberry; hazel alder; nannyberry; roughleaf dogwood	Arborvitae-----	Pin oak; river birch; swamp white oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
925B: Frankfort-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Bryce-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
969E2: Casco, eroded-----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar
Rodman, eroded-----	American plum; black chokeberry; blackhaw; common juniper; gray dogwood; mapleleaf viburnum	Cockspur hawthorn; common serviceberry; eastern redcedar; nannyberry; prairie crabapple	Bur oak; chinkapin oak	---
969F: Casco-----	American cranberrybush; American hazelnut; black chokeberry; common chokecherry; common elderberry; common juniper; coralberry; mapleleaf viburnum; silky dogwood	American plum; bur oak; chinkapin oak; common serviceberry; eastern redcedar; nannyberry; prairie crabapple; roughleaf dogwood; smooth sumac	Black oak; common hackberry; eastern white pine	Carolina poplar

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
969F: Rodman-----	American plum; black chokeberry; blackhaw; common juniper; gray dogwood; mapleleaf viburnum	Cockspur hawthorn; common serviceberry; eastern redcedar; nannyberry; prairie crabapple	Bur oak; chinkapin oak	---
973A: Hoopeston-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
Selma-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
1103A: Houghton, undrained	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Common serviceberry; hazel alder; nannyberry; roughleaf dogwood	Arborvitae-----	Pin oak; river birch; swamp white oak
1107A: Sawmill, undrained, frequently flooded	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
1330A: Peotone, undrained-	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
1409A: Aquments, clayey, undrained-----	Common winterberry; gray dogwood; redosier dogwood	Common pawpaw; nannyberry; roughleaf dogwood; silky dogwood	Arborvitae; bur oak; common hackberry; eastern redcedar; green hawthorn	Carolina poplar; eastern cottonwood
1516A: Faxon, undrained, frequently flooded	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
1903A: Muskego, undrained-	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Common serviceberry; hazel alder; nannyberry; roughleaf dogwood	Arborvitae	Pin oak; river birch; swamp white oak

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
1903A: Houghton, undrained	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Common serviceberry; hazel alder; nannyberry; roughleaf dogwood	Arborvitae-----	Pin oak; river birch; swamp white oak
2023B: Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Urban land.				
Blount-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
2049A: Orthents, loamy----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
Urban land.				

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
2049A: Watseka-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
2223B: Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Urban land.				
Varna-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
2232A: Orthents, clayey---	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Urban land.				

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
2232A: Ashkum-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
2530B: Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Urban land.				
Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
2530D: Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Urban land.				

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
2530D: Ozaukee-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
2571A: Orthents, loamy----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
Urban land.				
Whitaker-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; common persimmon; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak; sweetgum
2740A: Orthents, loamy----	American hazelnut; black chokeberry; common elderberry; common juniper; common ninebark; common winterberry; coralberry; mapleleaf viburnum; redosier dogwood; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; prairie crabapple; roughleaf dogwood; smooth sumac; southern arrowwood	Arborvitae; blue spruce; eastern redcedar; nannyberry; pecan; Washington hawthorn; white oak	Black walnut; blackgum; common hackberry; Douglas fir; northern red oak; Norway spruce; pin oak
Urban land.				

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
2740A: Darroch-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
2800A: Urban land.				
Psamments, nearly level-----	American hazelnut; common elderberry; common winterberry; coralberry; mapleleaf viburnum; silky dogwood	Alternateteleaf dogwood; American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; southern arrowwood; staghorn sumac	Blue spruce; common hackberry; eastern redcedar; red maple; Washington hawthorn	Carolina poplar; red pine
2800B: Urban land.				
Psamments, gently sloping-----	American hazelnut; common elderberry; common winterberry; coralberry; mapleleaf viburnum; silky dogwood	Alternateteleaf dogwood; American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; southern arrowwood; staghorn sumac	Blue spruce; common hackberry; eastern redcedar; red maple; Washington hawthorn	Carolina poplar; red pine

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
2811A: Urban land.				
Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
2811B: Urban land.				
Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
2822A: Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Urban land.				
Elliott-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
2822B: Alfic Udarents, clayey-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
Urban land.				
Elliott-----	American cranberrybush; American hazelnut; black chokeberry; common juniper; coralberry; gray dogwood; mapleleaf viburnum; silky dogwood	American plum; American witchhazel; blackhaw; common chokecherry; common serviceberry; nannyberry; prairie crabapple; roughleaf dogwood; staghorn sumac; Washington hawthorn	Arborvitae; black oak; blackgum; bur oak; chinkapin oak; common hackberry; eastern redcedar	Norway spruce
3107A: Sawmill, frequently flooded-----	American cranberrybush; black chokeberry; buttonbush; common elderberry; common ninebark; common winterberry; gray dogwood; highbush blueberry; northern spicebush; redosier dogwood; silky dogwood	Cockspur hawthorn; hazel alder; nannyberry; roughleaf dogwood	Arborvitae; blackgum; common hackberry; green hawthorn; shingle oak	Red maple; river birch; swamp white oak
3316A: Romeo-----	American plum; black chokeberry; blackhaw; common juniper; gray dogwood; mapleleaf viburnum	Cockspur hawthorn; common serviceberry; eastern redcedar; nannyberry; prairie crabapple	Bur oak; chinkapin oak	---

Soil Survey of Cook County, Illinois

Table 11.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--			
	<8	8-15	16-25	26-35
3451A: Lawson, frequently flooded-----	American cranberrybush; black chokeberry; Canada yew; common elderberry; common juniper; common ninebark; common winterberry; northern spicebush; redosier dogwood; silky dogwood	Blackhaw; cockspur hawthorn; common pawpaw; common serviceberry; prairie crabapple; roughleaf dogwood; rusty blackhaw; southern arrowwood; witchhazel	Arborvitae; Austrian pine; blue spruce; Douglas fir; eastern redcedar; green hawthorn; nannyberry; pecan; shingle oak	Blackgum; common hackberry; Norway spruce; red maple; swamp white oak
4904A: Muskego, ponded.				
Pectone, ponded.				
M-W. Miscellaneous water				
W. Water				

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Very limited		Somewhat limited		Very limited	
	Depth to	1.00	Depth to	0.99	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Slow water	0.96	Slow water	0.96	Slow water	0.96
	movement		movement		movement	
23B: Blount-----	Very limited		Somewhat limited		Very limited	
	Depth to	1.00	Depth to	0.99	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Slow water	0.96	Slow water	0.96	Slow water	0.96
	movement		movement		movement	
					Slope	0.12
49A: Watseka-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to	0.98	Depth to	0.75	Depth to	0.98
	saturated zone		saturated zone		saturated zone	
	Too sandy	0.60	Too sandy	0.60	Too sandy	0.60
54B: Plainfield-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.50	Too sandy	0.50	Too sandy	0.50
					Slope	0.03
67A: Harpster-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
69A: Milford-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Slow water	0.21	Slow water	0.21	Slow water	0.21
	movement		movement		movement	
91A: Swygert-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to	0.98	Slow water	0.96	Depth to	0.98
	saturated zone		movement		saturated zone	
	Slow water	0.96	Depth to	0.75	Slow water	0.96
	movement		saturated zone		movement	
91B: Swygert-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to	0.98	Slow water	0.96	Depth to	0.98
	saturated zone		movement		saturated zone	
	Slow water	0.96	Depth to	0.75	Slow water	0.96
	movement		saturated zone		movement	
103A: Houghton-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
125A: Selma-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
141A: Wesley-----	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96
146A: Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.88	Very limited Depth to saturated zone Slow water movement	1.00 0.96
146B: Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.88	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.12
152A: Drummer-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
153A: Pella-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
172A: Hoopeston-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
189A: Martinton-----	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.21	Somewhat limited Depth to saturated zone Slow water movement	0.75 0.21	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.21
192A: Del Rey-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.94	Very limited Depth to saturated zone Slow water movement	1.00 0.96
201A: Gilford-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206A: Thorp-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
223B: Varna-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
223C2: Varna, eroded-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.88
228A: Nappanee-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
228B: Nappanee-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Depth to saturated zone Slope	1.00 0.12
228C2: Nappanee, eroded----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Depth to saturated zone Slope	1.00 0.88
232A: Ashkum-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
235A: Bryce-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
241D3: Chatsworth, severely eroded----	Very limited Slow water movement Too clayey Depth to saturated zone Slope	1.00 1.00 0.16 0.04	Very limited Slow water movement Too clayey Depth to saturated zone Slope	1.00 1.00 0.08 0.04	Very limited Slow water movement Slope Too clayey Depth to saturated zone	1.00 1.00 1.00 0.16
241E3: Chatsworth, severely eroded----	Very limited Slow water movement Slope Too clayey Depth to saturated zone	1.00 1.00 1.00 0.16	Very limited Slow water movement Slope Too clayey Depth to saturated zone	1.00 1.00 1.00 0.08	Very limited Slow water movement Slope Too clayey Depth to saturated zone	1.00 1.00 1.00 0.16
290B: Warsaw-----	Not limited		Not limited		Somewhat limited Slope	0.12
293A: Andres-----	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.21	Somewhat limited Depth to saturated zone Slow water movement	0.78 0.21	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.21
294B: Symerton-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.28
295A: Mokena-----	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96
298A: Beecher-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.96	Very limited Depth to saturated zone Slow water movement	1.00 0.96
298B: Beecher-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.12

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
318C2: Lorenzo, eroded-----	Not limited		Not limited		Somewhat limited Slope	0.88
318D2: Lorenzo, eroded-----	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
320A: Frankfort-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
320B: Frankfort-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Depth to saturated zone Slope	0.12
320C2: Frankfort, eroded---	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Depth to saturated zone Slope	0.88
327A: Fox-----	Not limited		Not limited		Not limited	
327B: Fox-----	Not limited		Not limited		Somewhat limited Slope	0.12
327C2: Fox, eroded-----	Not limited		Not limited		Somewhat limited Slope	0.88
329A: Will-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
330A: Peotone-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
343A: Kane-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
361B: Kidder-----	Not limited		Not limited		Somewhat limited Slope	0.12

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
361C2: Kidder, eroded-----	Not limited		Not limited		Somewhat limited Slope	0.88
361D2: Kidder, eroded-----	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
361E2: Kidder, eroded-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
363B: Griswold-----	Not limited		Not limited		Somewhat limited Slope	0.12
363C2: Griswold, eroded----	Not limited		Not limited		Somewhat limited Slope	0.88
367: Beaches-----	Not rated		Not rated		Not rated	
369B: Waupecan-----	Not limited		Not limited		Somewhat limited Slope	0.12
370B: Saylesville-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement Slope	0.21 0.12
392A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, nearly level-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21
392B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, gently sloping-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement Slope	0.21 0.12
442A: Mundelein-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
443B: Barrington-----	Not limited		Not limited		Somewhat limited Slope	0.12

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
494B: Kankakee-----	Not limited		Not limited		Somewhat limited Slope	0.12
503B: Rockton-----	Somewhat limited Slow water movement	0.43	Somewhat limited Slow water movement	0.43	Somewhat limited Slope Slow water movement Depth to bedrock	0.50 0.43 0.10
522B: Orthents, clayey, refuse substratum, undulating-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
522D: Orthents, clayey, refuse substratum, rolling-----	Somewhat limited Slow water movement Slope	0.96 0.04	Somewhat limited Slow water movement Slope	0.96 0.04	Very limited Slope Slow water movement	1.00 0.96
522F: Orthents, clayey, refuse substratum, steep-----	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96
523A: Dunham-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
526A: Grundelein-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
529A: Selmass-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
530B: Ozaukee-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
530C: Ozaukee-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.88

Soil Survey of Cook County, Illinois

Table 12a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530C2: Ozaukee-----	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.16	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.08	Somewhat limited Slow water movement Slope Depth to saturated zone	0.96 0.88 0.16
530D: Ozaukee-----	Somewhat limited Slow water movement Slope	0.96 0.04	Somewhat limited Slow water movement Slope	0.96 0.04	Very limited Slope Slow water movement	1.00 0.96
530D2: Ozaukee-----	Somewhat limited Slow water movement Depth to saturated zone Slope	0.96 0.16 0.04	Somewhat limited Slow water movement Depth to saturated zone Slope	0.96 0.08 0.04	Very limited Slope Slow water movement Depth to saturated zone	1.00 0.96 0.16
530D3: Ozaukee-----	Somewhat limited Slow water movement Depth to saturated zone Slope	0.96 0.39 0.04	Somewhat limited Slow water movement Depth to saturated zone Slope	0.96 0.19 0.04	Very limited Slope Slow water movement Depth to saturated zone	1.00 0.96 0.39
530E: Ozaukee-----	Very limited Slope Slow water movement Depth to saturated zone	1.00 0.96 0.16	Very limited Slope Slow water movement Depth to saturated zone	1.00 0.96 0.08	Very limited Slope Slow water movement Depth to saturated zone	1.00 0.96 0.16
530F: Ozaukee-----	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96
531B: Markham-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
531C2: Markham, eroded----	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.07	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.03	Somewhat limited Slow water movement Slope Depth to saturated zone	0.96 0.88 0.07

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
531D2: Markham, eroded-----	Somewhat limited Slow water movement Slope Depth to saturated zone	0.96 0.04 0.03	Somewhat limited Slow water movement Slope Depth to saturated zone	0.96 0.04 0.02	Very limited Slope Slow water movement Depth to saturated zone	1.00 0.96 0.03
533: Urban land-----	Not rated		Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, nearly level-----	Very limited Slow water movement Too clayey	1.00 1.00	Very limited Slow water movement Too clayey	1.00 1.00	Very limited Slow water movement Too clayey	1.00 1.00
534B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, gently sloping-----	Very limited Too clayey Slow water movement	1.00 0.96	Very limited Too clayey Slow water movement	1.00 0.96	Very limited Too clayey Slow water movement Slope	1.00 0.96 0.12
535B: Orthents, undulating, stony--	Somewhat limited Large stones	0.02	Somewhat limited Large stones	0.02	Somewhat limited Slope Gravel Large stones	0.28 0.14 0.02
541B: Graymont-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.28
560D2: St. Clair, eroded---	Very limited Slow water movement Slope	1.00 0.04	Very limited Slow water movement Slope	1.00 0.04	Very limited Slow water movement Slope	1.00 1.00
571A: Whitaker-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
614A: Chenoa-----	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
696A: Zurich-----	Not limited		Not limited		Not limited	
696B: Zurich-----	Not limited		Not limited		Somewhat limited Slope	0.12
696C2: Zurich, eroded-----	Not limited		Not limited		Somewhat limited Slope	0.88
696D2: Zurich, eroded-----	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
697A: Wauconda-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
698B: Grays-----	Not limited		Not limited		Somewhat limited Slope	0.12
740A: Darroch-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
741B: Oakville-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.28
741D: Oakville-----	Very limited Too sandy Slope	1.00 0.04	Very limited Too sandy Slope	1.00 0.04	Very limited Slope Too sandy	1.00 1.00
800A: Psammments, nearly level-----	Not rated		Not rated		Not rated	
802A: Orthents, loamy, nearly level-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21
802B: Orthents, loamy, undulating-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slope Slow water movement	0.28 0.21
802D: Orthents, loamy, rolling-----	Somewhat limited Slow water movement Slope	0.21 0.04	Somewhat limited Slow water movement Slope	0.21 0.04	Very limited Slope Slow water movement	1.00 0.21

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Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
805A: Orthents, clayey, nearly level-----	Very limited Slow water movement Too clayey	1.00 1.00	Very limited Slow water movement Too clayey	1.00 1.00	Very limited Slow water movement Too clayey	1.00 1.00
805B: Orthents, clayey, undulating-----	Very limited Too clayey Slow water movement	1.00 0.96	Very limited Too clayey Slow water movement	1.00 0.96	Very limited Too clayey Slow water movement Slope	1.00 0.96 0.12
805D: Orthents, clayey, rolling-----	Very limited Slow water movement Too clayey Slope	1.00 1.00 0.04	Very limited Slow water movement Too clayey Slope	1.00 1.00 0.04	Very limited Slow water movement Slope Too clayey	1.00 1.00 1.00
807A: Orthents, loamy-skeletal, nearly level-----	Somewhat limited Large stones Slow water movement	0.32 0.21	Somewhat limited Large stones Slow water movement	0.32 0.21	Very limited Gravel Large stones Slow water movement	1.00 0.32 0.21
807B: Orthents, loamy-skeletal, undulating-----	Somewhat limited Large stones Slow water movement	0.32 0.21	Somewhat limited Large stones Slow water movement	0.32 0.21	Very limited Gravel Large stones Slope Slow water movement	1.00 0.32 0.28 0.21
811A: Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96
811B: Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
811D: Alfic Udarents, clayey-----	Somewhat limited Slow water movement Slope	0.96 0.04	Somewhat limited Slow water movement Slope	0.96 0.04	Very limited Slope Slow water movement	1.00 0.96

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
822A: Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96
Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.88	Very limited Depth to saturated zone Slow water movement	1.00 0.96
822B: Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96
Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.88	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.12
830: Landfills-----	Not rated		Not rated		Not rated	
848B: Drummer-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Barrington-----	Not limited		Not limited		Somewhat limited Slope	0.12
Mundelein-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
849A: Milford-----	Very limited Depth to saturated zone Slow water movement	1.00 0.21	Very limited Depth to saturated zone Slow water movement	1.00 0.21	Very limited Depth to saturated zone Slow water movement	1.00 0.21
Martinton-----	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.21	Somewhat limited Depth to saturated zone Slow water movement	0.75 0.21	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.21
854B: Markham-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.28

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
854B:						
Ashkum-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Slow water	0.21	Slow water	0.21	Slow water	0.21
	movement		movement		movement	
Beecher-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Slow water	0.96	Slow water	0.96	Slow water	0.96
	movement		movement		movement	
					Slope	0.12
862:						
Pits, sand-----	Not rated		Not rated		Not rated	
863:						
Pits, clay-----	Not rated		Not rated		Not rated	
864:						
Pits, quarry-----	Not rated		Not rated		Not rated	
865:						
Pits, gravel-----	Not rated		Not rated		Not rated	
903A:						
Muskego-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
Houghton-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
925B:						
Frankfort-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Slow water	1.00	Slow water	1.00
	saturated zone		movement		movement	
	Slow water	1.00	Depth to	0.94	Depth to	1.00
	movement		saturated zone		saturated zone	
					Slope	0.12
Bryce-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Slow water	0.96	Slow water	0.96	Slow water	0.96
	movement		movement		movement	
969E2:						
Casco, eroded-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Rodman, eroded-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel	1.00
	Gravel	0.07	Gravel	0.07	Slope	1.00

Soil Survey of Cook County, Illinois

Table 12a.-Recreational Development-Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
969F:						
Casco-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rodman-----	Very limited Slope Gravel	1.00 0.07	Very limited Slope Gravel	1.00 0.07	Very limited Gravel Slope	1.00 1.00
973A:						
Hoopeston-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
Selma-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
1103A:						
Houghton, undrained	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
1107A:						
Sawmill, undrained, frequently flooded	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 1.00
1330A:						
Peotone, undrained--	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.21	Very limited Ponding Depth to saturated zone Slow water movement	1.00 1.00 0.21	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.21
1409A:						
Aquents, clayey, undrained-----	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Slow water movement Depth to saturated zone Ponding	1.00 1.00 1.00
1516A:						
Faxon, undrained, frequently flooded	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 1.00
1903A:						
Muskego, undrained--	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1903A: Houghton, undrained	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
2023B: Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
Urban land-----	Not rated		Not rated		Not rated	
Blount-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.96	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.12
2049A: Orthents, loamy----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21
Urban land-----	Not rated		Not rated		Not rated	
Watseka-----	Somewhat limited Depth to saturated zone Too sandy	0.98 0.60	Somewhat limited Depth to saturated zone Too sandy	0.75 0.60	Somewhat limited Depth to saturated zone Too sandy	0.98 0.60
2223B: Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
Urban land-----	Not rated		Not rated		Not rated	
Varna-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
2232A: Orthents, clayey----	Very limited Slow water movement Too clayey	1.00 1.00	Very limited Slow water movement Too clayey	1.00 1.00	Very limited Slow water movement Too clayey	1.00 1.00
Urban land-----	Not rated		Not rated		Not rated	
Ashkum-----	Very limited Depth to saturated zone Slow water movement	1.00 0.21	Very limited Depth to saturated zone Slow water movement	1.00 0.21	Very limited Depth to saturated zone Slow water movement	1.00 0.21

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2530B: Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
2530D: Alfic Udarents, clayey-----	Somewhat limited Slow water movement Slope	0.96 0.04	Somewhat limited Slow water movement Slope	0.96 0.04	Very limited Slope Slow water movement	1.00 0.96
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Somewhat limited Slow water movement Slope	0.96 0.04	Somewhat limited Slow water movement Slope	0.96 0.04	Very limited Slope Slow water movement	1.00 0.96
2571A: Orthents, loamy----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21
Urban land-----	Not rated		Not rated		Not rated	
Whitaker-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
2740A: Orthents, loamy----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21
Urban land-----	Not rated		Not rated		Not rated	
Darroch-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
2800A: Urban land-----	Not rated		Not rated		Not rated	
Psammments, nearly level-----	Not rated		Not rated		Not rated	
2800B: Urban land-----	Not rated		Not rated		Not rated	
Psammments, gently sloping-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 12a.—Recreational Development—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2811A:						
Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96
2811B:						
Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
2822A:						
Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.88	Very limited Depth to saturated zone Slow water movement	1.00 0.96
2822B:						
Alfic Udarents, clayey-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.88	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.12
3107A:						
Sawmill, frequently flooded-----	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 1.00
3316A:						
Romeo-----	Very limited Depth to saturated zone Flooding Depth to bedrock	1.00 1.00 1.00	Very limited Depth to saturated zone Depth to bedrock Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Depth to bedrock Flooding	1.00 1.00 1.00

Soil Survey of Cook County, Illinois

Table 12a.-Recreational Development-Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3451A: Lawson, frequently flooded-----	Very limited Flooding Depth to saturated zone	 1.00 0.98	Somewhat limited Depth to saturated zone Flooding	 0.75 0.40	Very limited Flooding Depth to saturated zone	 1.00 0.98
4904A: Muskego, ponded-----	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00
Peotone, ponded-----	Very limited Depth to saturated zone Ponding Slow water movement	 1.00 1.00 0.21	Very limited Ponding Depth to saturated zone Slow water movement	 1.00 1.00 0.21	Very limited Depth to saturated zone Ponding Slow water movement	 1.00 1.00 0.21
M-W: Miscellaneous water	Not rated		Not rated		Not rated	
W: Water-----	Not rated		Not rated		Not rated	

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Table 12b.--Recreational Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.99
23B: Blount-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.99
49A: Watseka-----	Somewhat limited Too sandy Depth to saturated zone	0.60 0.44	Somewhat limited Too sandy Depth to saturated zone	0.60 0.44	Somewhat limited Depth to saturated zone Droughtiness	0.75 0.05
54B: Plainfield-----	Somewhat limited Too sandy	0.50	Somewhat limited Too sandy	0.50	Somewhat limited Droughtiness	0.89
67A: Harpster-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
69A: Milford-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
91A: Swygert-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
91B: Swygert-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
103A: Houghton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
125A: Selma-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
141A: Wesley-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75

Soil Survey of Cook County, Illinois

Table 12b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
146A: Elliott-----	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.88
146B: Elliott-----	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.88
152A: Drummer-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
153A: Pella-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
172A: Hoopeston-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
189A: Martinton-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
192A: Del Rey-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
201A: Gilford-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
206A: Thorp-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
223B: Varna-----	Not limited		Not limited		Not limited	
223C2: Varna, eroded-----	Not limited		Not limited		Not limited	
228A: Nappanee-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
228B: Nappanee-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94

Soil Survey of Cook County, Illinois

Table 12b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
228C2: Nappanee, eroded----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone Droughtiness	0.94 0.03
232A: Ashkum-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
235A: Bryce-----	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 1.00
241D3: Chatsworth, severely eroded----	Very limited Too clayey	1.00	Very limited Too clayey	1.00	Very limited Too clayey Droughtiness Depth to saturated zone Slope	1.00 0.98 0.08 0.04
241E3: Chatsworth, severely eroded----	Very limited Too clayey Slope	1.00 0.02	Very limited Too clayey	1.00	Very limited Slope Too clayey Droughtiness Depth to saturated zone	1.00 1.00 0.94 0.08
290B: Warsaw-----	Not limited		Not limited		Not limited	
293A: Andres-----	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
294B: Symerton-----	Not limited		Not limited		Not limited	
295A: Mokena-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
298A: Beecher-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.99
298B: Beecher-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

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Table 12b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
318C2: Lorenzo, eroded-----	Not limited		Not limited		Somewhat limited Droughtiness	0.28
318D2: Lorenzo, eroded-----	Not limited		Not limited		Somewhat limited Droughtiness Slope	0.13 0.04
320A: Frankfort-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
320B: Frankfort-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
320C2: Frankfort, eroded---	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
327A: Fox-----	Not limited		Not limited		Not limited	
327B: Fox-----	Not limited		Not limited		Not limited	
327C2: Fox, eroded-----	Not limited		Not limited		Not limited	
329A: Will-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
330A: Peotone-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
343A: Kane-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
361B: Kidder-----	Not limited		Not limited		Not limited	
361C2: Kidder, eroded-----	Not limited		Not limited		Not limited	
361D2: Kidder, eroded-----	Not limited		Not limited		Somewhat limited Slope	0.04
361E2: Kidder, eroded-----	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00

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Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
363B: Griswold-----	Not limited		Not limited		Not limited	
363C2: Griswold, eroded----	Not limited		Not limited		Not limited	
367: Beaches-----	Not rated		Not rated		Not rated	
369B: Waupecan-----	Not limited		Not limited		Not limited	
370B: Saylesville-----	Not limited		Not limited		Not limited	
392A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, nearly level-----	Not limited		Not limited		Very limited Too dense	1.00
392B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, gently sloping----	Not limited		Not limited		Very limited Too dense	1.00
442A: Mundelein-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
443B: Barrington-----	Not limited		Not limited		Not limited	
494B: Kankakee-----	Not limited		Not limited		Not limited	
503B: Rockton-----	Not limited		Not limited		Somewhat limited Depth to bedrock	0.10
522B: Orthents, clayey, refuse substratum, undulating-----	Not limited		Not limited		Somewhat limited Droughtiness	0.98
522D: Orthents, clayey, refuse substratum, rolling-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Droughtiness Slope	0.99 0.04

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Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
522F: Orthents, clayey, refuse substratum, steep-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion	1.00	Very limited Slope Droughtiness	1.00 0.96
523A: Dunham-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
526A: Grundelein-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
529A: Selmass-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
530B: Ozaukee-----	Not limited		Not limited		Not limited	
530C: Ozaukee-----	Not limited		Not limited		Not limited	
530C2: Ozaukee-----	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.08
530D: Ozaukee-----	Not limited		Not limited		Somewhat limited Slope	0.04
530D2: Ozaukee-----	Not limited		Not limited		Somewhat limited Depth to saturated zone Slope	0.08 0.04
530D3: Ozaukee-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to saturated zone Slope	0.19 0.04
530E: Ozaukee-----	Somewhat limited Slope	0.02	Not limited		Very limited Slope Depth to saturated zone	1.00 0.08
530F: Ozaukee-----	Very limited Slope	1.00	Not limited		Very limited Slope	1.00

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Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
531B: Markham-----	Not limited		Not limited		Not limited	
531C2: Markham, eroded----	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.03
531D2: Markham, eroded----	Not limited		Not limited		Somewhat limited Slope Depth to saturated zone	0.04 0.02
533: Urban land-----	Not rated		Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, nearly level-----	Very limited Too clayey	1.00	Very limited Too clayey	1.00	Very limited Too clayey Droughtiness	1.00 0.41
534B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, gently sloping----	Very limited Too clayey	1.00	Very limited Too clayey	1.00	Very limited Too clayey Droughtiness	1.00 0.43
535B: Orthents, undulating, stony--	Somewhat limited Large stones	0.02	Somewhat limited Large stones	0.02	Very limited Too dense Large stones	1.00 1.00
541B: Graymont-----	Not limited		Not limited		Not limited	
560D2: St. Clair, eroded---	Not limited		Not limited		Somewhat limited Slope	0.04
571A: Whitaker-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
614A: Chenoa-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
696A: Zurich-----	Not limited		Not limited		Not limited	

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Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
696B: Zurich-----	Not limited		Not limited		Not limited	
696C2: Zurich, eroded-----	Not limited		Not limited		Not limited	
696D2: Zurich, eroded-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.04
697A: Wauconda-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
698B: Grays-----	Not limited		Not limited		Not limited	
740A: Darroch-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
741B: Oakville-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughtiness	0.34
741D: Oakville-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughtiness Slope	0.42 0.04
800A: Psammets, nearly level-----	Not limited		Not limited		Somewhat limited Droughtiness	0.09
802A: Orthents, loamy, nearly level-----	Not limited		Not limited		Very limited Too dense	1.00
802B: Orthents, loamy, undulating-----	Not limited		Not limited		Very limited Too dense	1.00
802D: Orthents, loamy, rolling-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Very limited Too dense Slope	1.00 0.04
805A: Orthents, clayey, nearly level-----	Very limited Too clayey	1.00	Very limited Too clayey	1.00	Very limited Too clayey Droughtiness	1.00 0.41

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Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
805B: Orthents, clayey, undulating-----	Very limited Too clayey	1.00	Very limited Too clayey	1.00	Very limited Too clayey Droughtiness	1.00 0.43
805D: Orthents, clayey, rolling-----	Very limited Too clayey Water erosion	1.00 1.00	Very limited Too clayey Water erosion	1.00 1.00	Very limited Too clayey Droughtiness Slope	1.00 0.48 0.04
807A: Orthents, loamy-skeletal, nearly level-----	Somewhat limited Large stones	0.32	Somewhat limited Large stones	0.32	Very limited Large stones Too dense	1.00 1.00
807B: Orthents, loamy-skeletal, undulating-----	Somewhat limited Large stones	0.32	Somewhat limited Large stones	0.32	Very limited Large stones Too dense	1.00 1.00
811A: Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.26
811B: Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.21
811D: Alfic Udarents, clayey-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Droughtiness Slope	0.20 0.04
822A: Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.26
Elliott-----	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.88
822B: Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.21
Elliott-----	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.88

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Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
830: Landfills-----	Not rated		Not rated		Not rated	
848B: Drummer-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Barrington-----	Not limited		Not limited		Not limited	
Mundelein-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
849A: Milford-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Martinton-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
854B: Markham-----	Not limited		Not limited		Not limited	
Ashkum-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Beecher-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
862: Pits, sand-----	Not rated		Not rated		Not rated	
863: Pits, clay-----	Not rated		Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated		Not rated	
903A: Muskego-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Houghton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
925B: Frankfort-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94

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Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
925B: Bryce-----	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 1.00
969E2: Casco, eroded-----	Somewhat limited Slope	0.02	Not limited		Very limited Slope Droughtiness	1.00 0.24
Rodman, eroded-----	Somewhat limited Slope	0.02	Not limited		Very limited Droughtiness Slope Gravel	1.00 1.00 0.07
969F: Casco-----	Very limited Slope	1.00	Not limited		Very limited Slope Droughtiness	1.00 0.34
Rodman-----	Very limited Slope	1.00	Not limited		Very limited Slope Droughtiness Gravel	1.00 0.94 0.07
973A: Hoopeston-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Selma-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
1103A: Houghton, undrained	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
1107A: Sawmill, undrained, frequently flooded	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
1330A: Peotone, undrained--	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
1409A: Aguents, clayey, undrained-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone Droughtiness	1.00 1.00 0.52

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Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1516A: Faxon, undrained, frequently flooded	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone Depth to bedrock	1.00 1.00 0.46
1903A: Muskego, undrained--	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Houghton, undrained	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
2023B: Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.22
Urban land-----	Not rated		Not rated		Not rated	
Blount-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.99
2049A: Orthents, loamy----	Not limited		Not limited		Very limited Too dense	1.00
Urban land-----	Not rated		Not rated		Not rated	
Watseka-----	Somewhat limited Too sandy Depth to saturated zone	0.60 0.44	Somewhat limited Too sandy Depth to saturated zone	0.60 0.44	Somewhat limited Depth to saturated zone Droughtiness	0.75 0.05
2223B: Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.19
Urban land-----	Not rated		Not rated		Not rated	
Varna-----	Not limited		Not limited		Not limited	
2232A: Orthents, clayey----	Very limited Too clayey	1.00	Very limited Too clayey	1.00	Very limited Too clayey Droughtiness	1.00 0.41
Urban land-----	Not rated		Not rated		Not rated	
Ashkum-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

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Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2530B: Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.25
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Not limited		Not limited		Not limited	
2530D: Alfic Udarents, clayey-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Droughtiness Slope	0.29 0.04
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Not limited		Not limited		Somewhat limited Slope	0.04
2571A: Orthents, loamy----	Not limited		Not limited		Very limited Too dense	1.00
Urban land-----	Not rated		Not rated		Not rated	
Whitaker-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
2740A: Orthents, loamy----	Not limited		Not limited		Very limited Too dense	1.00
Urban land-----	Not rated		Not rated		Not rated	
Darroch-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
2800A: Urban land-----	Not rated		Not rated		Not rated	
Psammments, nearly level-----	Not limited		Not limited		Somewhat limited Droughtiness	0.09
2800B: Urban land-----	Not rated		Not rated		Not rated	
Psammments, gently sloping-----	Not limited		Not limited		Somewhat limited Droughtiness	0.09
2811A: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.26

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Table 12b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2811B: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.21
2822A: Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.26
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.88
2822B: Alfic Udarents, clayey-----	Not limited		Not limited		Somewhat limited Droughtiness	0.21
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.88
3107A: Sawmill, frequently flooded-----	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
3316A: Romeo-----	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to bedrock Flooding Depth to saturated zone Droughtiness	1.00 1.00 1.00 0.98
3451A: Lawson, frequently flooded-----	Somewhat limited Depth to saturated zone Flooding	0.44 0.40	Somewhat limited Depth to saturated zone Flooding	0.44 0.40	Very limited Flooding Depth to saturated zone	1.00 0.75
4904A: Muskego, ponded----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Peotone, ponded----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00

Soil Survey of Cook County, Illinois

Table 12b.—Recreational Development—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
M-W: Miscellaneous water	Not rated		Not rated		Not rated	
W: Water-----	Not rated		Not rated		Not rated	

Table 13.-Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that the term is not applicable.)

Map symbol and soil name	Potential for habitat elements										Pote
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild areas			
23A: Blount-----	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Fair	Fair	
23B: Blount-----	Fair	Good	Fair	Good	Good	Fair	Poor	Poor	Fair	Fair	
49A: Watseka-----	Poor	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair	Fair	
54B: Plainfield-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Very poor	Poor	Poor	
67A: Harpster-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Fair	Fair	
69A: Milford-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Fair	Fair	
91A: Swygert-----	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good	Good	
91B: Swygert-----	Fair	Good	Good	Good	Good	Fair	Poor	Poor	Good	Good	
103A: Houghton-----	Very poor	Poor	Poor	Poor	Very poor	Good	Good	Good	Poor	Poor	
125A: Selma-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Fair	Fair	
141A: Wesley-----	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good	Good	
146A: Elliott-----	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good	Good	
146B: Elliott-----	Fair	Good	Good	Good	Good	Fair	Poor	Poor	Good	Good	
152A: Drummer-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Good	Fair	

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements										Pote
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild areas			
153A: Pella-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair			
172A: Hoopeston-----	Fair	Good	Good	Good	Good	Fair	Fair	Good			
189A: Martinton-----	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good		
192A: Del Rey-----	Fair	Good	Fair	Good	Good	Fair	Fair	Fair			
201A: Gilford-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Fair		
206A: Thorp-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Fair		
223B: Varna-----	Good	Good	Good	Good	Good	Poor	Poor	Poor	Good		
223C2: Varna, eroded----	Fair	Good	Good	Good	Good	Poor	Poor	Very poor	Good		
228A: Nappanee-----	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Fair		
228B: Nappanee-----	Fair	Good	Fair	Good	Good	Fair	Poor	Poor	Fair		
228C2: Nappanee, eroded--	Fair	Good	Fair	Fair	Fair	Poor	Very poor		Fair		
232A: Ashkum-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Fair		
235A: Bryce-----	Poor	Fair	Poor	Fair	Poor	Fair	Good	Good	Poor		
241D3: Chatsworth, severely eroded--	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor		Fair		

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements										Pote
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open wild areas			
241E3: Chatsworth, severely eroded--	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor				
290B: Warsaw-----	Good	Good	Good	Good	Good	Poor	Very poor				
293A: Andres-----	Fair	Good	Good	Good	Good	Fair	Fair				
294B: Symerton-----	Good	Good	Good	Good	Good	Poor	Very poor				
295A: Mokena-----	Fair	Good	Good	Good	Good	Fair	Fair				
298A: Beecher-----	Fair	Good	Fair	Good	Good	Fair	Fair				
298B: Beecher-----	Fair	Good	Fair	Good	Good	Fair	Poor				
318C2: Lorenzo, eroded---	Fair	Good	Good	Fair	Fair	Poor	Very poor				
318D2: Lorenzo, eroded---	Fair	Good	Good	Fair	Fair	Very poor	Very poor				
320A: Frankfort-----	Fair	Good	Fair	Good	Good	Fair	Fair				
320B: Frankfort-----	Fair	Good	Fair	Good	Good	Fair	Poor				
320C2: Frankfort, eroded	Fair	Good	Fair	Good	Good	Poor	Very poor				
327A: Fox-----	Good	Good	Good	Good	Good	Poor	Very poor				

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements										Pote
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild areas			
327B: Fox-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good		
327C2: Fox, eroded-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good		
329A: Will-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair		
330A: Peotone-----	Very poor	Poor	Poor	Poor	Very poor	Good	Good	Poor	Poor		
343A: Kane-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good		
361B: Kidder-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good		
361C2: Kidder, eroded----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good		
361D2: Kidder, eroded----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good		
361E2: Kidder, eroded----	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Fair		
363B: Griswold-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good		
363C2: Griswold, eroded--	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good		
367. Beaches											
369B: Waupecan-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good		

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements								Pote
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open wild areas	
370B: Saylesville-----	Good	Good	Good	Good	Good	Poor	Poor	Good	
392A: Urban land.									
Orthents, loamy, nearly level-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	
392B: Urban land.									
Orthents, loamy, gently sloping---	Good	Good	Good	Good	Good	Poor	Very poor	Good	
442A: Mundelein-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	
443B: Barrington-----	Good	Good	Good	Good	Good	Poor	Poor	Good	
494B: Kankakee-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	
503B: Rockton-----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	
522B: Orthents, clayey, refuse substratum, undulating-----	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Very poor	
522D: Orthents, clayey, refuse substratum, rolling-----	Very poor	Very poor	Poor	Poor	Poor	Very poor	Very poor	Very poor	

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements										Pote
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild areas			
522F: Orthents, clayey, refuse substratum, steep-----	Very poor	Very poor	Poor	Poor	Poor	Very poor	Very poor	Very poor	Very poor	Very poor	
523A: Dunham-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Fair	Fair	
526A: Grundelein-----	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good	Good	
529A: Selmass-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Fair	Fair	
530B: Ozaukee-----	Fair	Good	Good	Good	Good	Poor	Poor	Poor	Good	Good	
530C: Ozaukee-----	Fair	Good	Good	Good	Good	Poor	Poor	Very poor	Good	Good	
530C2: Ozaukee-----	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Good	Good	
530D: Ozaukee-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Very poor	Good	Good	
530D2: Ozaukee-----	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Very poor	Good	Good	
530D3: Ozaukee-----	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Very poor	Good	Good	
530E: Ozaukee-----	Poor	Fair	Good	Good	Good	Very poor	Very poor	Very poor	Fair	Fair	
530F: Ozaukee-----	Poor	Fair	Good	Good	Good	Very poor	Very poor	Very poor	Fair	Fair	

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements										Pote
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild areas			
531B: Markham-----	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good		
531C2: Markham, eroded---	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good		
531D2: Markham, eroded---	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good		
533. Urban land											
534A: Urban land.											
Orthents, clayey, nearly level-----	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Very poor		
534B: Urban land.											
Orthents, clayey, gently sloping---	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Very poor		
535B: Orthents, undulating, stony	Poor	Fair	Good	Good	Good	Poor	Very poor	Fair	Fair		
541B: Graymont-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good		
560D2: St. Clair, eroded	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Good	Good		
571A: Whitaker-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good		
614A: Chenoa-----	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good		

Table 13.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements										Pote
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open wild			
696A: Zurich-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good		
696B: Zurich-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good		
696C2: Zurich, eroded----	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good		
696D2: Zurich, eroded----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good		
697A: Wauconda-----	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Fair		
698B: Grays-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good		
740A: Darroch-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good		
741B: Oakville-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor		
741D: Oakville-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor		
800A: Psumments, nearly level-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor		
802A: Orthents, loamy, nearly level-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good		
802B: Orthents, loamy, undulating-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good		

Table 13.-Wildlife Habitat-Continued

Map symbol and soil name	Potential for habitat elements										Poten
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild			
802D: Orthents, loamy, rolling-----Fair		Good	Good	Good	Good	Very poor	Very poor	Good			
805A: Orthents, clayey, nearly level-----	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Very poor	Very poor	Good
805B: Orthents, clayey, undulating-----	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Very poor	Very poor	Very poor
805D: Orthents, clayey, rolling-----	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Very poor	Very poor	Very poor
807A: Orthents, loamy-skeletal, nearly level-----	Very poor	Poor	Good	Good	Good	Poor	Very poor	Very poor	Very poor	Poor	Poor
807B: Orthents, loamy-skeletal, undulating-----	Very poor	Poor	Good	Good	Good	Poor	Very poor	Very poor	Very poor	Poor	Poor
811A: Alfic Udarents, clayey-----Fair	Fair	Good	Good	Fair	Fair	Poor	Poor	Poor	Poor	Good	Good
811B: Alfic Udarents, clayey-----Fair	Fair	Good	Good	Fair	Fair	Poor	Very poor	Very poor	Very poor	Good	Good
811D: Alfic Udarents, clayey-----Fair	Fair	Good	Good	Fair	Fair	Poor	Very poor	Very poor	Very poor	Good	Good

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Open wild- land	
822A: Alfic Udarents, clayey-----Fair									
	Good		Good	Fair	Fair	Poor	Poor	Good	
Elliott-----Fair	Good	Good	Good	Good	Good	Fair	Fair	Good	
822B: Alfic Udarents, clayey-----Fair									
	Good		Good	Fair	Fair	Poor	Poor	Good	
Elliott-----Fair	Good	Good	Good	Good	Good	Fair	Poor	Good	
830. Landfills									
848B: Drummer-----Poor		Fair	Fair	Fair	Poor	Good	Good	Fair	
Barrington-----Good	Good	Good	Good	Good	Good	Poor	Poor	Good	
Mundelein-----Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good	
849A: Milford-----Poor		Fair	Fair	Fair	Poor	Good	Good	Fair	
Martinton-----Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good	
854B: Markham-----Fair		Good	Good	Good	Good	Poor	Poor	Good	
Ashkum-----Poor	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	
Beecher-----Fair	Fair	Good	Fair	Good	Good	Fair	Poor	Fair	
862. Pits, sand									
863. Pits, clay									
864. Pits, quarry									
865. Pits, gravel									

Table 13.-Wildlife Habitat-Continued

Map symbol and soil name	Potential for habitat elements										Potential for shallow water areas
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild-			Poten-
903A: Muskego-----	Very poor	Poor	Poor	Poor	Very poor	Good	Good				Poor
Houghton-----	Very poor	Poor	Poor	Poor	Very poor	Good	Good				Poor
925B: Frankfort-----	Fair	Good	Fair	Good	Good	Fair	Poor				Fair
Bryce-----	Poor	Fair	Poor	Fair	Poor	Fair	Good				Poor
969E2: Casco, eroded----	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor				Fair
Rodman, eroded----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor				Poor
969F: Casco-----	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor				Fair
Rodman-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor				Poor
973A: Hoopesston-----	Fair	Good	Good	Good	Good	Fair	Fair				Good
Selma-----	Poor	Fair	Fair	Fair	Poor	Good	Good				Fair
1103A: Houghton, undrained-----	Very poor	Poor	Poor	Poor	Very poor	Good	Good				Poor
1107A: Sawmill, undrained, frequently flooded-----	Poor	Fair	Fair	Fair	Poor	Good	Good				Fair
1330A: Peotone, undrained	Very poor	Poor	Poor	Poor	Very poor	Good	Good				Poor

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements										Potential
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild			
1409A: Aguents, clayey, undrained-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair		
1516A: Faxon, undrained, frequently flooded-----	Poor	Fair	Fair	Fair	Poor	Good	Fair	Fair	Fair		
1903A: Muskego, undrained-----	Very poor	Poor	Poor	Poor	Very poor	Good	Good	Good	Poor		
Houghton, undrained-----	Very poor	Poor	Poor	Poor	Very poor	Good	Good	Good	Poor		
2023B: Alfic Udarents, clayey-----	Fair	Good	Good	Fair	Fair	Poor	Poor	Poor	Good		
Urban land.											
Blount-----	Fair	Good	Fair	Good	Good	Fair	Poor	Poor	Fair		
2049A: Orthents, loamy---	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good		
Urban land.											
Watseska-----	Poor	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair		
2223B: Alfic Udarents, clayey-----	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	Good		
Urban land.											
Varna-----	Good	Good	Good	Good	Good	Poor	Poor	Poor	Good		

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements										Poten
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild			
2232A: Orthents, clayey--	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Very poor			
Urban land.											
Ashkum-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Good	Fair		Fair
2530B: Alfic Udarents, clayey-----	Fair	Good	Good	Fair	Fair	Poor	Very poor	Very poor			Good
Urban land.											
Ozaukee-----	Fair	Good	Good	Good	Good	Poor	Poor	Poor			Good
2530D: Alfic Udarents, clayey-----	Fair	Good	Good	Fair	Fair			Very poor	Very poor		Good
Urban land.											
Ozaukee-----	Fair	Good	Good	Good	Good	Very poor	Very poor	Very poor			Good
2571A: Orthents, loamy---	Good	Good	Good	Good	Good	Poor	Very poor	Very poor			Good
Urban land.											
Whitaker-----	Fair	Good	Good	Good	Good	Fair	Fair	Fair			Good
2740A: Orthents, loamy---	Good	Good	Good	Good	Good	Poor	Very poor	Very poor			Good
Urban land.											
Darroch-----	Fair	Good	Good	Good	Good	Fair	Fair	Fair			Good

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas		
2800A: Urban land.									
Psamments, nearly level-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	
2800B: Urban land.									
Psamments, gently sloping-----	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	
2811A: Urban land.									
Alfic Udarents, clayey-----	Fair	Good	Good	Fair	Fair	Poor	Poor	Good	
2811B: Urban land.									
Alfic Udarents, clayey-----	Fair	Good	Good	Fair	Fair	Poor	Very poor	Good	
2822A: Alfic Udarents, clayey-----	Fair	Good	Good	Fair	Fair	Poor	Poor	Good	
Urban land.									
Elliot-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	
2822B: Alfic Udarents, clayey-----	Fair	Good	Good	Fair	Fair	Poor	Poor	Good	
Urban land.									
Elliot-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	
3107A: Sawmill, frequently flooded-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	

Table 13.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements										Poten-
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water	Open wild- areas			
3316A: Romeo-----	Very poor	Very poor	Poor	Poor	Very poor	Good	Very poor	Very poor			
3451A: Lawson, frequently flooded-----	Poor	Fair	Fair	Good	Fair	Fair	Fair	Fair			
4904A: Muskego, ponded---	Very poor	Poor	Very poor	Very poor	Very poor	Good	Good	Good			
Peotone, ponded---	Very poor	Poor	Very poor	Very poor	Very poor	Good	Good	Good			
M-W. Miscellaneous water											
W. Water											

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	0.50			Shrink-swell	0.50
23B: Blount-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	0.50			Shrink-swell	0.50
49A: Watseka-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to	0.98	Depth to	1.00	Depth to	0.98
	saturated zone		saturated zone		saturated zone	
54B: Plainfield-----	Not limited		Not limited		Not limited	
67A: Harpster-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
69A: Milford-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
91A: Swygert-----	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to	1.00	Shrink-swell	1.00
	Depth to	0.98	saturated zone		Depth to	0.98
	saturated zone		Shrink-swell	1.00	saturated zone	
91B: Swygert-----	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to	1.00	Shrink-swell	1.00
	Depth to	0.98	saturated zone		Depth to	0.98
	saturated zone		Shrink-swell	1.00	saturated zone	
103A: Houghton-----	Very limited		Very limited		Very limited	
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Organic matter	1.00	Organic matter	1.00	Organic matter	1.00
	content		content		content	

Soil Survey of Cook County, Illinois

Table 14a.-Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
125A: Selma-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
141A: Wesley-----	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.98
146A: Elliott-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
146B: Elliott-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
152A: Drummer-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
153A: Pella-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
172A: Hoopeston-----	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.98
189A: Martinton-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
192A: Del Rey-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
201A: Gilford-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
206A: Thorp-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
223B: Varna-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
223C2: Varna, eroded-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
228A: Nappanee-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
228B: Nappanee-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
228C2: Nappanee, eroded----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.50 0.12
232A: Ashkum-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
235A: Bryce-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
241D3: Chatsworth, severely eroded----	Somewhat limited Shrink-swell Depth to saturated zone Slope	0.50 0.16 0.04	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.50 0.04	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16
241E3: Chatsworth, severely eroded----	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16	Very limited Depth to saturated zone Slope Shrink-swell	1.00 1.00 0.50	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
290B: Warsaw-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
293A: Andres-----	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50
294B: Symerton-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.97	Somewhat limited Shrink-swell	0.50
295A: Mokena-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
298A: Beecher-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
298B: Beecher-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
318C2: Lorenzo, eroded-----	Not limited		Not limited		Somewhat limited Slope	0.12
318D2: Lorenzo, eroded-----	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
320A: Frankfort-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
320B: Frankfort-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
320C2: Frankfort, eroded---	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.50 0.12
327A: Fox-----	Not limited		Not limited		Not limited	

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
327B: Fox-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
327C2: Fox, eroded-----	Not limited		Not limited		Somewhat limited Slope	0.12
329A: Will-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
330A: Peotone-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
343A: Kane-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
361B: Kidder-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
361C2: Kidder, eroded-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
361D2: Kidder, eroded-----	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Slope	0.04	Very limited Slope Shrink-swell	1.00 0.50
361E2: Kidder, eroded-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
363B: Griswold-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
363C2: Griswold, eroded-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell Slope	0.50 0.12
367: Beaches-----	Not rated		Not rated		Not rated	
369B: Waupecan-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
370B: Saylesville-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
392A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, nearly level-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.47	Somewhat limited Shrink-swell	0.50
392B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, gently sloping----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.47	Somewhat limited Shrink-swell	0.50
442A: Mundelein-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
443B: Barrington-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
494B: Kankakee-----	Somewhat limited Large stones	0.28	Somewhat limited Large stones	0.28	Somewhat limited Large stones	0.28
503B: Rockton-----	Somewhat limited Shrink-swell Depth to hard bedrock	0.50 0.10	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell Depth to hard bedrock	0.50 0.10
522B: Orthents, clayey, refuse substratum, undulating-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
522D: Orthents, clayey, refuse substratum, rolling-----	Very limited Shrink-swell Slope	1.00 0.04	Very limited Shrink-swell Slope	1.00 0.04	Very limited Shrink-swell Slope	1.00 1.00

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
522F: Orthents, clayey, refuse substratum, steep-----	Very limited Slope Shrink-swell	1.00 1.00	Very limited Slope Shrink-swell	1.00 0.22	Very limited Slope Shrink-swell	1.00 1.00
523A: Dunham-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
526A: Grundelein-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
529A: Selmass-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
530B: Ozaukee-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Shrink-swell	0.50
530C: Ozaukee-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
530C2: Ozaukee-----	Somewhat limited Depth to saturated zone	0.16	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.16 0.12
530D: Ozaukee-----	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Depth to saturated zone Shrink-swell Slope	0.99 0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
530D2: Ozaukee-----	Somewhat limited Depth to saturated zone Slope	0.16 0.04	Very limited Depth to saturated zone Slope	1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.16
530D3: Ozaukee-----	Somewhat limited Depth to saturated zone Slope	0.39 0.04	Very limited Depth to saturated zone Slope	1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.39

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530E: Ozaukee-----	Very limited Slope Depth to saturated zone	1.00 0.16	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.16
530F: Ozaukee-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Depth to saturated zone	1.00 0.99	Very limited Slope Shrink-swell	1.00 0.50
531B: Markham-----	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50
531C2: Markham, eroded----	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.07	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell Slope Depth to saturated zone	0.50 0.12 0.07
531D2: Markham, eroded----	Somewhat limited Shrink-swell Slope Depth to saturated zone	0.50 0.04 0.03	Very limited Depth to saturated zone Slope	1.00 0.04	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.03
533: Urban land-----	Not rated		Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, nearly level-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell	1.00
534B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, gently sloping-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell	1.00
535B: Orthents, undulating, stony--	Somewhat limited Large stones	0.08	Somewhat limited Depth to saturated zone Large stones	0.15 0.08	Somewhat limited Large stones	0.08

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
541B: Graymont-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Shrink-swell	0.50
560D2: St. Clair, eroded---	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Depth to saturated zone Shrink-swell Slope	0.99 0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50
571A: Whitaker-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
614A: Chenoa-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
696A: Zurich-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Shrink-swell	0.50
696B: Zurich-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Shrink-swell	0.50
696C2: Zurich, eroded-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Shrink-swell Slope	0.50 0.12
696D2: Zurich, eroded-----	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Depth to saturated zone Slope	0.99 0.04	Very limited Slope Shrink-swell	1.00 0.50
697A: Wauconda-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
698B: Grays-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
740A: Darroch-----	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.98

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
741B: Oakville-----	Not limited		Not limited		Not limited	
741D: Oakville-----	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
800A: Psammments, nearly level-----	Not limited		Not limited		Not limited	
802A: Orthents, loamy, nearly level-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.47	Somewhat limited Shrink-swell	0.50
802B: Orthents, loamy, undulating-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.47	Somewhat limited Shrink-swell	0.50
802D: Orthents, loamy, rolling-----	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Depth to saturated zone Slope	0.50 0.47 0.04	Very limited Slope Shrink-swell	1.00 0.50
805A: Orthents, clayey, nearly level-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell	1.00
805B: Orthents, clayey, undulating-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell	1.00
805D: Orthents, clayey, rolling-----	Very limited Shrink-swell Slope	1.00 0.04	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.04	Very limited Shrink-swell Slope	1.00 1.00
807A: Orthents, loamy-skeletal, nearly level-----	Very limited Large stones Shrink-swell	1.00 0.50	Very limited Large stones Shrink-swell	1.00 0.50	Very limited Large stones Shrink-swell	1.00 0.50

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
807B: Orthents, loamy-skeletal, undulating-----	Very limited Large stones Shrink-swell	1.00 0.50	Very limited Large stones Shrink-swell	1.00 0.50	Very limited Large stones Shrink-swell	1.00 0.50
811A: Alfic Udarents, clayey-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.95	Very limited Shrink-swell	1.00
811B: Alfic Udarents, clayey-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.95	Very limited Shrink-swell	1.00
811D: Alfic Udarents, clayey-----	Very limited Shrink-swell Slope	1.00 0.04	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.47 0.04	Very limited Shrink-swell Slope	1.00 1.00
822A: Alfic Udarents, clayey-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.95	Very limited Shrink-swell	1.00
Elliott-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
822B: Alfic Udarents, clayey-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.95	Very limited Shrink-swell	1.00
Elliott-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
830: Landfills-----	Not rated		Not rated		Not rated	
848B: Drummer-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
848B:						
Barrington-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
Mundelein-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
849A:						
Milford-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Martinton-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
854B:						
Markham-----	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Shrink-swell	0.50
Ashkum-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Beecher-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
862:						
Pits, sand-----	Not rated		Not rated		Not rated	
863:						
Pits, clay-----	Not rated		Not rated		Not rated	
864:						
Pits, quarry-----	Not rated		Not rated		Not rated	
865:						
Pits, gravel-----	Not rated		Not rated		Not rated	
903A:						
Muskego-----	Very limited Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Organic matter content Shrink-swell	1.00 1.00 1.00 0.50	Very limited Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
903A:						
Houghton-----	Very limited		Very limited		Very limited	
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Organic matter	1.00	Organic matter	1.00	Organic matter	1.00
	content		content		content	
925B:						
Frankfort-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Bryce-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
969E2:						
Casco, eroded-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Rodman, eroded-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
969F:						
Casco-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Rodman-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
973A:						
Hoopeston-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to	0.98	Depth to	1.00	Depth to	0.98
	saturated zone		saturated zone		saturated zone	
Selma-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
1103A:						
Houghton, undrained	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Organic matter	1.00	Organic matter	1.00	Organic matter	1.00
	content		content		content	
1107A:						
Sawmill, undrained, frequently flooded	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1330A: Peotone, undrained--	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
1409A: Aquments, clayey, undrained-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
1516A: Faxon, undrained, frequently flooded	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
	Depth to hard bedrock	0.46	Shrink-swell	0.50	Depth to hard bedrock	0.46
1903A: Muskego, undrained--	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
			Shrink-swell	0.50		
Houghton, undrained	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
2023B: Alfic Udarents, clayey-----	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
			Depth to saturated zone	0.95		
Urban land-----	Not rated		Not rated		Not rated	
Blount-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2049A:						
Orthents, loamy-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.47	Somewhat limited Shrink-swell	0.50
Urban land-----	Not rated		Not rated		Not rated	
Watseka-----	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.98
2223B:						
Alfic Udarents, clayey-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.47	Very limited Shrink-swell	1.00
Urban land-----	Not rated		Not rated		Not rated	
Varna-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
2232A:						
Orthents, clayey----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell	1.00
Urban land-----	Not rated		Not rated		Not rated	
Ashkum-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
2530B:						
Alfic Udarents, clayey-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.47	Very limited Shrink-swell	1.00
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Shrink-swell	0.50
2530D:						
Alfic Udarents, clayey-----	Very limited Shrink-swell Slope	1.00 0.04	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.47 0.04	Very limited Shrink-swell Slope	1.00 1.00

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2530D:						
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Depth to	0.99	Slope	1.00
	Slope	0.04	saturated zone		Shrink-swell	0.50
			Shrink-swell	0.50		
			Slope	0.04		
2571A:						
Orthents, loamy-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to	0.47		
			saturated zone			
Urban land-----	Not rated		Not rated		Not rated	
Whitaker-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
2740A:						
Orthents, loamy-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to	0.47		
			saturated zone			
Urban land-----	Not rated		Not rated		Not rated	
Darroch-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to	0.98	Depth to	1.00	Depth to	0.98
	saturated zone		saturated zone		saturated zone	
2800A:						
Urban land-----	Not rated		Not rated		Not rated	
Psammments, nearly						
level-----	Not limited		Not limited		Not limited	
2800B:						
Urban land-----	Not rated		Not rated		Not rated	
Psammments, gently						
sloping-----	Not limited		Not limited		Not limited	
2811A:						
Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents,						
clayey-----	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
			Depth to	0.95		
			saturated zone			
2811B:						
Urban land-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2811B: Alfic Udarents, clayey-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.95	Very limited Shrink-swell	1.00
2822A: Alfic Udarents, clayey-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.95	Very limited Shrink-swell	1.00
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
2822B: Alfic Udarents, clayey-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.95	Very limited Shrink-swell	1.00
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
3107A: Sawmill, frequently flooded-----	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
3316A: Romeo-----	Very limited Flooding Depth to saturated zone Depth to hard bedrock	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Depth to hard bedrock	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Depth to hard bedrock	1.00 1.00 1.00
3451A: Lawson, frequently flooded-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 0.98

Soil Survey of Cook County, Illinois

Table 14a.—Building Site Development—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4904A:						
Muskego, ponded-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Organic matter	1.00	Organic matter	1.00	Organic matter	1.00
	content		content		content	
			Shrink-swell	0.50		
Peotone, ponded-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
W:						
Water-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.99
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.99	Dense layer	0.50		
	saturated zone		Unstable	0.10		
	Shrink-swell	0.50	excavation walls			
			Too clayey	0.02		
23B: Blount-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.99
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.99	Dense layer	0.50		
	saturated zone		Unstable	0.10		
	Shrink-swell	0.50	excavation walls			
			Too clayey	0.02		
49A: Watseka-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to	0.75	Depth to	1.00	Depth to	0.75
	saturated zone		saturated zone		saturated zone	
			Unstable	1.00	Droughtiness	0.05
			excavation walls			
54B: Plainfield-----	Not limited		Very limited		Somewhat limited	
			Unstable	1.00	Droughtiness	0.89
			excavation walls			
67A: Harpster-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Unstable	0.10		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50				
69A: Milford-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Unstable	0.10		
	Frost action	1.00	excavation walls			
	Low strength	1.00	Too clayey	0.01		
91A: Swygert-----	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Too clayey	0.32		
	saturated zone		Unstable	0.10		
	Frost action	0.50	excavation walls			

Soil Survey of Cook County, Illinois

Table 14b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91B: Swygert-----	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Too clayey	0.32		
	saturated zone		Unstable	0.10		
	Frost action	0.50	excavation walls			
103A: Houghton-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Subsidence	1.00	Organic matter	1.00		
	Frost action	1.00	content			
125A: Selma-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50				
141A: Wesley-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to	0.75	Depth to	1.00	Depth to	0.75
	saturated zone		saturated zone		saturated zone	
	Frost action	0.50	Dense layer	0.50		
			Unstable	0.10		
			excavation walls			
146A: Elliott-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to	1.00	Depth to	0.88
	Depth to	0.88	saturated zone		saturated zone	
	saturated zone		Dense layer	0.50		
	Shrink-swell	0.50	Unstable	0.10		
	Frost action	0.50	excavation walls			
146B: Elliott-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to	1.00	Depth to	0.88
	Depth to	0.88	saturated zone		saturated zone	
	saturated zone		Dense layer	0.50		
	Shrink-swell	0.50	Unstable	0.10		
	Frost action	0.50	excavation walls			
152A: Drummer-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50				
153A: Pella-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50				

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
172A: Hoopeston-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Frost action	0.50	Unstable excavation walls	1.00		
189A: Martinton-----	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Unstable	0.10		
	saturated zone		excavation walls			
	Frost action	0.50				
192A: Del Rey-----	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to	1.00	Depth to	0.94
	Frost action	1.00	saturated zone		saturated zone	
	Low strength	1.00	Unstable	0.10		
	Depth to	0.94	excavation walls			
	saturated zone		Too clayey	0.01		
201A: Gilford-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Unstable	1.00		
			excavation walls			
206A: Thorp-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50				
223B: Varna-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to	0.99		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Unstable	0.10		
			excavation walls			
			Too clayey	0.03		
223C2: Varna, eroded-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to	0.99		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Unstable	0.10		
			excavation walls			

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
228A: Nappanee-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Dense layer	0.50		
	saturated zone		Too clayey	0.32		
	Shrink-swell	0.50	Unstable	0.10		
			excavation walls			
228B: Nappanee-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Dense layer	0.50		
	saturated zone		Too clayey	0.32		
	Shrink-swell	0.50	Unstable	0.10		
			excavation walls			
228C2: Nappanee, eroded----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Dense layer	0.50	Droughtiness	0.03
	saturated zone		Too clayey	0.32		
	Shrink-swell	0.50	Unstable	0.10		
			excavation walls			
232A: Ashkum-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Unstable	0.10		
	Frost action	1.00	excavation walls			
	Low strength	1.00	Too clayey	0.01		
235A: Bryce-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Too clayey	0.50	Too clayey	1.00
	Frost action	1.00	Unstable	0.10		
	Low strength	1.00	excavation walls			
241D3: Chatsworth, severely eroded----	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to	1.00	Too clayey	1.00
	Shrink-swell	0.50	saturated zone		Droughtiness	0.98
	Frost action	0.50	Dense layer	0.50	Depth to	0.08
	Depth to	0.08	Too clayey	0.32	saturated zone	
	saturated zone		Unstable	0.10	Slope	0.04
	Slope	0.04	excavation walls			
			Slope	0.04		

Soil Survey of Cook County, Illinois

Table 14b.-Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
241E3: Chatsworth, severely eroded----	Very limited Low strength Slope Shrink-swell Frost action Depth to saturated zone	 1.00 1.00 0.50 0.50 0.08	Very limited Depth to saturated zone Slope Dense layer Too clayey Unstable excavation walls	 1.00 1.00 0.50 0.32 0.10	Very limited Slope Too clayey Droughtiness Depth to saturated zone	 1.00 1.00 0.94 0.08
290B: Warsaw-----	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Unstable excavation walls	 1.00	Not limited	
293A: Andres-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.78 0.50 0.50	Very limited Depth to saturated zone Unstable excavation walls	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.78
294B: Symerton-----	Somewhat limited Low strength Shrink-swell Frost action	 0.78 0.50 0.50	Very limited Unstable excavation walls Depth to saturated zone	 1.00 0.97	Not limited	
295A: Mokena-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.75 0.50 0.50	Very limited Depth to saturated zone Too clayey Unstable excavation walls	 1.00 0.50 0.10	Somewhat limited Depth to saturated zone	 0.75
298A: Beecher-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.99 0.50	Very limited Depth to saturated zone Dense layer Unstable excavation walls	 1.00 0.50 0.10	Somewhat limited Depth to saturated zone	 0.99
298B: Beecher-----	Very limited Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Dense layer Unstable excavation walls	 1.00 0.50 0.10	Very limited Depth to saturated zone	 1.00
318C2: Lorenzo, eroded----	Somewhat limited Frost action	 0.50	Very limited Unstable excavation walls	 1.00	Somewhat limited Droughtiness	 0.28

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
318D2: Lorenzo, eroded----	Somewhat limited Frost action Slope	0.50 0.04	Very limited Unstable excavation walls Slope	1.00 0.04	Somewhat limited Droughtiness Slope	0.13 0.04
320A: Frankfort-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Too clayey Unstable excavation walls	1.00 0.32 0.10	Somewhat limited Depth to saturated zone	0.94
320B: Frankfort-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Too clayey Unstable excavation walls	1.00 0.32 0.10	Somewhat limited Depth to saturated zone	0.94
320C2: Frankfort, eroded---	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Too clayey Unstable excavation walls	1.00 0.32 0.10	Somewhat limited Depth to saturated zone	0.94
327A: Fox-----	Somewhat limited Frost action	0.50	Very limited Unstable excavation walls	1.00	Not limited	
327B: Fox-----	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Unstable excavation walls	1.00	Not limited	
327C2: Fox, eroded-----	Somewhat limited Frost action	0.50	Very limited Unstable excavation walls	1.00	Not limited	
329A: Will-----	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Depth to saturated zone Unstable excavation walls	1.00 1.00	Very limited Depth to saturated zone	1.00
330A: Peotone-----	Very limited Depth to saturated zone Shrink-swell Frost action Low strength	1.00 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Unstable excavation walls Too clayey	1.00 0.10 0.02	Very limited Depth to saturated zone	1.00

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
343A: Kane-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.75 0.50 0.50	Very limited Depth to saturated zone Unstable excavation walls	 1.00 1.00	Somewhat limited Depth to saturated zone	 0.75
361B: Kidder-----	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Unstable excavation walls	 0.10	Not limited	
361C2: Kidder, eroded-----	Somewhat limited Shrink-swell Frost action	 0.50 0.50	Somewhat limited Unstable excavation walls	 0.10	Not limited	
361D2: Kidder, eroded-----	Somewhat limited Shrink-swell Frost action Slope	 0.50 0.50 0.04	Somewhat limited Unstable excavation walls Slope	 0.10 0.04	Somewhat limited Slope	 0.04
361E2: Kidder, eroded-----	Very limited Slope Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Slope Unstable excavation walls	 1.00 0.10	Very limited Slope	 1.00
363B: Griswold-----	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Unstable excavation walls	 1.00	Not limited	
363C2: Griswold, eroded----	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Unstable excavation walls	 1.00	Not limited	
367: Beaches-----	Not rated		Not rated		Not rated	
369B: Waupecan-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Unstable excavation walls	 1.00	Not limited	
370B: Saylesville-----	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Depth to saturated zone Unstable excavation walls Too clayey	 0.99 0.10 0.01	Not limited	

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
392A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, nearly level-----	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to	0.47	Too dense	1.00
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Unstable	0.10		
			excavation walls			
392B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, gently sloping-----	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to	0.47	Too dense	1.00
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Unstable	0.10		
			excavation walls			
442A: Mundelein-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Unstable	0.10		
	saturated zone		excavation walls			
	Shrink-swell	0.50				
443B: Barrington-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50	Depth to	0.99		
			saturated zone			
494B: Kankakee-----	Somewhat limited		Somewhat limited		Not limited	
	Frost action	0.50	Large stones	0.28		
	Large stones	0.28	Unstable	0.10		
			excavation walls			
503B: Rockton-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to hard	1.00	Depth to bedrock	0.10
	Shrink-swell	0.50	bedrock			
	Frost action	0.50	Unstable	0.10		
	Depth to hard	0.10	excavation walls			
	bedrock					
522B: Orthents, clayey, refuse substratum, undulating-----	Very limited		Somewhat limited		Somewhat limited	
	Shrink-swell	1.00	Too clayey	0.12	Droughtiness	0.98
	Low strength	1.00	Unstable	0.10		
	Frost action	0.50	excavation walls			

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
522D: Orthents, clayey, refuse substratum, rolling-----	Very limited Shrink-swell Low strength Frost action Slope	 1.00 1.00 0.50 0.04	Somewhat limited Too clayey Unstable excavation walls Slope	 0.12 0.10 0.04	Somewhat limited Droughtiness Slope	 0.99 0.04
522F: Orthents, clayey, refuse substratum, steep-----	Very limited Slope Shrink-swell Low strength Frost action	 1.00 1.00 1.00 0.50	Very limited Slope Too clayey Unstable excavation walls	 1.00 0.12 0.10	Very limited Slope Droughtiness	 1.00 0.96
523A: Dunham-----	Very limited Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Unstable excavation walls	 1.00 1.00	Very limited Depth to saturated zone	 1.00
526A: Grundelein-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Unstable excavation walls	 1.00 1.00	Somewhat limited Depth to saturated zone	 0.75
529A: Selmass-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Unstable excavation walls	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00
530B: Ozaukee-----	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Depth to saturated zone Dense layer Unstable excavation walls	 0.99 0.50 0.10	Not limited	
530C: Ozaukee-----	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Depth to saturated zone Dense layer Unstable excavation walls	 0.99 0.50 0.10	Not limited	

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530C2: Ozaukee-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to	1.00	Depth to	0.08
	Frost action	0.50	saturated zone		saturated zone	
	Depth to	0.08	Dense layer	0.50		
	saturated zone		Unstable	0.10		
			excavation walls			
530D: Ozaukee-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to	0.99	Slope	0.04
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
	Slope	0.04	Unstable	0.10		
			excavation walls			
			Slope	0.04		
530D2: Ozaukee-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to	1.00	Depth to	0.08
	Frost action	0.50	saturated zone		saturated zone	
	Depth to	0.08	Dense layer	0.50	Slope	0.04
	saturated zone		Unstable	0.10		
	Slope	0.04	excavation walls			
			Slope	0.04		
530D3: Ozaukee-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to	1.00	Depth to	0.19
	Frost action	0.50	saturated zone		saturated zone	
	Depth to	0.19	Dense layer	0.50	Slope	0.04
	saturated zone		Unstable	0.10		
	Slope	0.04	excavation walls			
			Slope	0.04		
530E: Ozaukee-----	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to	1.00	Slope	1.00
	Slope	1.00	saturated zone		Depth to	0.08
	Frost action	0.50	Slope	1.00	saturated zone	
	Depth to	0.08	Dense layer	0.50		
	saturated zone		Unstable	0.10		
			excavation walls			
530F: Ozaukee-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to	0.99		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Unstable	0.10		
			excavation walls			
531B: Markham-----	Very limited		Very limited		Not limited	
	Low strength	1.00	Depth to	1.00		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Unstable	0.10		
			excavation walls			

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
531C2: Markham, eroded-----	Very limited Low strength Shrink-swell Frost action Depth to saturated zone	 1.00 0.50 0.50 0.03	Very limited Depth to saturated zone Unstable excavation walls	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.03
531D2: Markham, eroded-----	Very limited Low strength Shrink-swell Frost action Slope Depth to saturated zone	 1.00 0.50 0.50 0.04 0.02	Very limited Depth to saturated zone Unstable excavation walls Slope	 1.00 0.10 0.04	Somewhat limited Slope Depth to saturated zone	 0.04 0.02
533: Urban land-----	Not rated		Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, nearly level-----	Very limited Shrink-swell Low strength Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Too clayey Unstable excavation walls	 0.99 0.32 0.10	Very limited Too clayey Droughtiness	 1.00 0.41
534B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, gently sloping-----	Very limited Shrink-swell Low strength Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Too clayey Unstable excavation walls	 0.99 0.32 0.10	Very limited Too clayey Droughtiness	 1.00 0.43
535B: Orthents, undulating, stony--	Somewhat limited Frost action Large stones	 0.50 0.08	Somewhat limited Dense layer Depth to saturated zone Unstable excavation walls Large stones	 0.50 0.15 0.10 0.08	Very limited Too dense Large stones	 1.00 1.00
541B: Graymont-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Unstable excavation walls	 0.99 0.10	Not limited	

Soil Survey of Cook County, Illinois

Table 14b.-Building Site Development-Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
560D2: St. Clair, eroded---	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to	0.99	Slope	0.04
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Too clayey	0.68		
	Slope	0.04	Dense layer	0.50		
			Unstable	0.10		
			excavation walls			
			Slope	0.04		
571A: Whitaker-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Unstable	1.00		
	saturated zone		excavation walls			
	Shrink-swell	0.50				
614A: Chenoa-----	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Unstable	0.10		
	saturated zone		excavation walls			
	Frost action	0.50				
696A: Zurich-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50	Depth to	0.99		
			saturated zone			
696B: Zurich-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50	Depth to	0.99		
			saturated zone			
696C2: Zurich, eroded----	Very limited		Very limited		Not limited	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50	Depth to	0.99		
			saturated zone			
696D2: Zurich, eroded----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Unstable	1.00	Slope	0.04
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50	Depth to	0.99		
	Slope	0.04	saturated zone			
			Slope	0.04		
697A: Wauconda-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Unstable	1.00		
	saturated zone		excavation walls			
	Shrink-swell	0.50				

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
698B: Grays-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50	Depth to	0.99		
			saturated zone			
740A: Darroch-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to	0.75	Depth to	1.00	Depth to	0.75
	saturated zone		saturated zone		saturated zone	
	Frost action	0.50	Unstable	0.10		
			excavation walls			
741B: Oakville-----	Not limited		Very limited		Somewhat limited	
			Unstable	1.00	Droughtiness	0.34
			excavation walls			
741D: Oakville-----	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.04	Unstable	1.00	Droughtiness	0.42
			excavation walls		Slope	0.04
			Slope	0.04		
800A: Psammments, nearly level-----	Not limited		Very limited		Somewhat limited	
			Unstable	1.00	Droughtiness	0.09
			excavation walls			
802A: Orthents, loamy, nearly level-----	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to	0.47	Too dense	1.00
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Unstable	0.10		
			excavation walls			
802B: Orthents, loamy, undulating-----	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to	0.47	Too dense	1.00
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Unstable	0.10		
			excavation walls			
802D: Orthents, loamy, rolling-----	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to	0.47	Too dense	1.00
	Shrink-swell	0.50	saturated zone		Slope	0.04
	Frost action	0.50	Unstable	0.10		
	Slope	0.04	excavation walls			
			Slope	0.04		

Soil Survey of Cook County, Illinois

Table 14b.-Building Site Development-Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
805A: Orthents, clayey, nearly level-----	Very limited Shrink-swell Low strength Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Too clayey Unstable excavation walls	 0.99 0.32 0.10	Very limited Too clayey Droughtiness	 1.00 0.41
805B: Orthents, clayey, undulating-----	Very limited Shrink-swell Low strength Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Too clayey Unstable excavation walls	 0.99 0.32 0.10	Very limited Too clayey Droughtiness	 1.00 0.43
805D: Orthents, clayey, rolling-----	Very limited Shrink-swell Low strength Frost action Slope	 1.00 1.00 0.50 0.04	Somewhat limited Depth to saturated zone Too clayey Unstable excavation walls Slope	 0.99 0.32 0.10 0.04	Very limited Too clayey Droughtiness Slope	 1.00 0.48 0.04
807A: Orthents, loamy-skeletal, nearly level-----	Very limited Large stones Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Large stones Unstable excavation walls	 1.00 0.10	Very limited Large stones Too dense	 1.00 1.00
807B: Orthents, loamy-skeletal, undulating-----	Very limited Large stones Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Large stones Unstable excavation walls	 1.00 0.10	Very limited Large stones Too dense	 1.00 1.00
811A: Alfic Udarents, clayey-----	Very limited Shrink-swell Low strength Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Too clayey Unstable excavation walls	 0.95 0.50 0.12 0.10	Somewhat limited Droughtiness	 0.26
811B: Alfic Udarents, clayey-----	Very limited Shrink-swell Low strength Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Unstable excavation walls	 0.95 0.50 0.10	Somewhat limited Droughtiness	 0.21

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
811D: Alfic Udarents, clayey-----	Very limited Shrink-swell Low strength Frost action Slope	 1.00 1.00 0.50 0.04	Somewhat limited Dense layer Depth to saturated zone Unstable excavation walls Slope Too clayey	 0.50 0.47 0.10 0.04 0.03	Somewhat limited Droughtiness Slope	 0.20 0.04
822A: Alfic Udarents, clayey-----	Very limited Shrink-swell Low strength Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Too clayey Unstable excavation walls	 0.95 0.50 0.12 0.10	Somewhat limited Droughtiness	 0.26
Elliott-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.88 0.50 0.50	Very limited Depth to saturated zone Dense layer Unstable excavation walls	 1.00 0.50 0.10	Somewhat limited Depth to saturated zone	 0.88
822B: Alfic Udarents, clayey-----	Very limited Shrink-swell Low strength Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Unstable excavation walls	 0.95 0.50 0.10	Somewhat limited Droughtiness	 0.21
Elliott-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.88 0.50 0.50	Very limited Depth to saturated zone Dense layer Unstable excavation walls	 1.00 0.50 0.10	Somewhat limited Depth to saturated zone	 0.88
830: Landfills-----	Not rated		Not rated		Not rated	
848B: Drummer-----	Very limited Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Unstable excavation walls	 1.00 1.00	Very limited Depth to saturated zone	 1.00
Barrington-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Unstable excavation walls Depth to saturated zone	 1.00 0.99	Not limited	

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
848B: Mundelein-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Unstable	0.10		
	saturated zone		excavation walls			
	Shrink-swell	0.50				
849A: Milford-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Unstable	0.10		
	Frost action	1.00	excavation walls			
	Low strength	1.00	Too clayey	0.01		
Martinton-----	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Unstable	0.10		
	saturated zone		excavation walls			
	Frost action	0.50				
854B: Markham-----	Very limited		Very limited		Not limited	
	Low strength	1.00	Depth to	1.00		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Unstable	0.10		
			excavation walls			
Ashkum-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Unstable	0.10		
	Frost action	1.00	excavation walls			
	Low strength	1.00	Too clayey	0.01		
Beecher-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Dense layer	0.50		
	Low strength	1.00	Unstable	0.10		
	Shrink-swell	0.50	excavation walls			
862: Pits, sand-----	Not rated		Not rated		Not rated	
863: Pits, clay-----	Not rated		Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
903A:						
Muskego-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Subsidence	1.00	Organic matter	1.00		
	Frost action	1.00	content			
			Unstable	0.10		
			excavation walls			
Houghton-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Subsidence	1.00	Organic matter	1.00		
	Frost action	1.00	content			
925B:						
Frankfort-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Too clayey	0.32		
	saturated zone		Unstable	0.10		
	Shrink-swell	0.50	excavation walls			
Bryce-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Too clayey	0.50	Too clayey	1.00
	Frost action	1.00	Unstable	0.10		
	Low strength	1.00	excavation walls			
969E2:						
Casco, eroded-----	Very limited		Very limited		Very limited	
	Slope	1.00	Unstable	1.00	Slope	1.00
	Frost action	0.50	excavation walls		Droughtiness	0.24
			Slope	1.00		
Rodman, eroded-----	Very limited		Very limited		Very limited	
	Slope	1.00	Unstable	1.00	Droughtiness	1.00
			excavation walls		Slope	1.00
			Slope	1.00	Gravel	0.07
969F:						
Casco-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Unstable	1.00	Droughtiness	0.34
			excavation walls			
Rodman-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Unstable	1.00	Droughtiness	0.94
			excavation walls		Gravel	0.07
973A:						
Hoopeston-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to	0.75	Depth to	1.00	Depth to	0.75
	saturated zone		saturated zone		saturated zone	
	Frost action	0.50	Unstable	1.00		
			excavation walls			

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
973A: Selma-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Unstable	1.00		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50				
1103A: Houghton, undrained	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Subsidence	1.00	Organic matter	1.00		
	Frost action	1.00	content			
1107A: Sawmill, undrained, frequently flooded	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Flooding	1.00
	saturated zone		saturated zone		Depth to	1.00
	Frost action	1.00	Flooding	0.80	saturated zone	
	Flooding	1.00	Unstable	0.10		
	Low strength	1.00	excavation walls			
	Shrink-swell	0.50				
1330A: Peotone, undrained--	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Unstable	0.10		
	Frost action	1.00	excavation walls			
	Low strength	1.00	Too clayey	0.02		
1409A: Aquents, clayey, undrained-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Unstable	0.10	Droughtiness	0.52
	Frost action	1.00	excavation walls			
	Low strength	1.00				
1516A: Faxon, undrained, frequently flooded	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to hard	1.00	Flooding	1.00
	saturated zone		bedrock		Depth to	1.00
	Frost action	1.00	Depth to	1.00	saturated zone	
	Flooding	1.00	saturated zone		Depth to bedrock	0.46
	Low strength	1.00	Flooding	0.80		
	Shrink-swell	0.50	Unstable	0.10		
			excavation walls			

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1903A:						
Muskego, undrained--	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Organic matter content	1.00		
	Frost action	1.00	Unstable excavation walls	0.10		
Houghton, undrained	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Organic matter content	1.00		
	Frost action	1.00				
2023B:						
Alfic Udarents, clayey-----	Very limited		Somewhat limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	0.95	Droughtiness	0.22
	Low strength	1.00	Dense layer	0.50		
	Frost action	0.50	Unstable excavation walls	0.10		
			Too clayey	0.02		
Urban land-----	Not rated		Not rated		Not rated	
Blount-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Low strength	1.00	Dense layer	0.50		
	Depth to saturated zone	0.99	Unstable excavation walls	0.10		
	Shrink-swell	0.50	Too clayey	0.02		
2049A:						
Orthents, loamy----	Very limited		Very limited		Very limited	
	Low strength	1.00	Unstable excavation walls	1.00	Too dense	1.00
	Shrink-swell	0.50	Depth to saturated zone	0.47		
	Frost action	0.50				
Urban land-----	Not rated		Not rated		Not rated	
Watseka-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
			Unstable excavation walls	1.00	Droughtiness	0.05
2223B:						
Alfic Udarents, clayey-----	Very limited		Somewhat limited		Somewhat limited	
	Shrink-swell	1.00	Dense layer	0.50	Droughtiness	0.19
	Low strength	1.00	Depth to saturated zone	0.47		
	Frost action	0.50	Unstable excavation walls	0.10		
			Too clayey	0.03		

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2223B: Urban land-----	Not rated		Not rated		Not rated	
Varna-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to	0.99		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Unstable	0.10		
			excavation walls			
			Too clayey	0.03		
2232A: Orthents, clayey----	Very limited		Somewhat limited		Very limited	
	Shrink-swell	1.00	Depth to	0.99	Too clayey	1.00
	Low strength	1.00	saturated zone		Droughtiness	0.41
	Frost action	0.50	Too clayey	0.32		
			Unstable	0.10		
			excavation walls			
Urban land-----	Not rated		Not rated		Not rated	
Ashkum-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Unstable	0.10		
	Frost action	1.00	excavation walls			
	Low strength	1.00	Too clayey	0.01		
2530B: Alfic Udarents, clayey-----	Very limited		Somewhat limited		Somewhat limited	
	Shrink-swell	1.00	Dense layer	0.50	Droughtiness	0.25
	Low strength	1.00	Depth to	0.47		
	Frost action	0.50	saturated zone			
			Unstable	0.10		
			excavation walls			
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to	0.99		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Unstable	0.10		
			excavation walls			
2530D: Alfic Udarents, clayey-----	Very limited		Somewhat limited		Somewhat limited	
	Shrink-swell	1.00	Dense layer	0.50	Droughtiness	0.29
	Low strength	1.00	Depth to	0.47	Slope	0.04
	Frost action	0.50	saturated zone			
	Slope	0.04	Unstable	0.10		
			excavation walls			
			Slope	0.04		
Urban land-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2530D: Ozaukee-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to	0.99	Slope	0.04
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Unstable	0.10		
			excavation walls			
			Slope	0.04		
2571A: Orthents, loamy-----	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to	0.47	Too dense	1.00
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Unstable	0.10		
			excavation walls			
Urban land-----	Not rated		Not rated		Not rated	
Whitaker-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Unstable	1.00		
	saturated zone		excavation walls			
	Shrink-swell	0.50				
2740A: Orthents, loamy-----	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to	0.47	Too dense	1.00
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Unstable	0.10		
			excavation walls			
Urban land-----	Not rated		Not rated		Not rated	
Darroch-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to	0.75	Depth to	1.00	Depth to	0.75
	saturated zone		saturated zone		saturated zone	
	Frost action	0.50	Unstable	0.10		
			excavation walls			
2800A: Urban land-----	Not rated		Not rated		Not rated	
Psamments, nearly level-----	Not limited		Very limited		Somewhat limited	
			Unstable	1.00	Droughtiness	0.09
			excavation walls			
2800B: Urban land-----	Not rated		Not rated		Not rated	
Psamments, gently sloping-----	Not limited		Very limited		Somewhat limited	
			Unstable	1.00	Droughtiness	0.09
			excavation walls			
2811A: Urban land-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 14b.—Building Site Development—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2811A: Alfic Udarents, clayey-----	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Too clayey Unstable excavation walls	0.95 0.50 0.12 0.10	Somewhat limited Droughtiness	0.26
2811B: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Unstable excavation walls	0.95 0.50 0.10	Somewhat limited Droughtiness	0.21
2822A: Alfic Udarents, clayey-----	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Too clayey Unstable excavation walls	0.95 0.50 0.12 0.10	Somewhat limited Droughtiness	0.26
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	1.00 0.88 0.50 0.50	Very limited Depth to saturated zone Dense layer Unstable excavation walls	1.00 0.50 0.10	Somewhat limited Depth to saturated zone	0.88
2822B: Alfic Udarents, clayey-----	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Unstable excavation walls	0.95 0.50 0.10	Somewhat limited Droughtiness	0.21
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	1.00 0.88 0.50 0.50	Very limited Depth to saturated zone Dense layer Unstable excavation walls	1.00 0.50 0.10	Somewhat limited Depth to saturated zone	0.88

Soil Survey of Cook County, Illinois

Table 14b.-Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3107A: Sawmill, frequently flooded-----	Very limited Depth to saturated zone Frost action Flooding Low strength Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Flooding Unstable excavation walls	 1.00 0.80 0.10	Very limited Flooding Depth to saturated zone	 1.00 1.00
3316A: Romeo-----	Very limited Depth to hard bedrock Depth to saturated zone Frost action Flooding Low strength	 1.00 1.00 1.00 1.00 1.00 1.00	Very limited Depth to hard bedrock Depth to saturated zone Flooding Unstable excavation walls	 1.00 1.00 0.80 0.10	Very limited Depth to bedrock Flooding Depth to saturated zone Droughtiness	 1.00 1.00 1.00 0.98
3451A: Lawson, frequently flooded-----	Very limited Frost action Flooding Low strength Depth to saturated zone	 1.00 1.00 1.00 0.75	Very limited Depth to saturated zone Flooding Unstable excavation walls	 1.00 0.80 0.10	Very limited Flooding Depth to saturated zone	 1.00 0.75
4904A: Muskego, ponded-----	Very limited Ponding Depth to saturated zone Subsidence Frost action	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Organic matter content Unstable excavation walls	 1.00 1.00 1.00 0.10	Very limited Ponding Depth to saturated zone	 1.00 1.00
Peotone, ponded-----	Very limited Ponding Depth to saturated zone Shrink-swell Frost action Low strength	 1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Unstable excavation walls Too clayey	 1.00 1.00 0.10 0.02	Very limited Ponding Depth to saturated zone	 1.00 1.00
M-W: Miscellaneous water	Not rated		Not rated		Not rated	
W: Water-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
23B: Blount-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.08
49A: Watseka-----	Very limited Depth to saturated zone	1.00	Very limited Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00		
54B: Plainfield-----	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
	Seepage, bottom layer	1.00	Slope	0.02
67A: Harpster-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
69A: Milford-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00		
91A: Swygert-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00		

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
91B: Swygert-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.08
103A: Houghton-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Organic matter content	1.00
	Subsidence	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
125A: Selma-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46		
141A: Wesley-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
146A: Elliott-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
146B: Elliott-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
			Slope	0.08
152A: Drummer-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
153A: Pella-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
172A: Hoopeston-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
189A: Martinton-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
192A: Del Rey-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
201A: Gilford-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
206A: Thorp-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
223B: Varna-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Slope	0.08
	Slow water movement	1.00	Depth to saturated zone	0.04
223C2: Varna, eroded-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Slope	0.68
	Slow water movement	1.00	Depth to saturated zone	0.04
228A: Nappanee-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
228B: Nappanee-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.08
228C2: Nappanee, eroded----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.68
232A: Ashkum-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
235A: Bryce-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
241D3: Chatsworth, severely eroded----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.56
	Slope	0.04		
241E3: Chatsworth, severely eroded----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.56
	Slope	1.00		
290B: Warsaw-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.08
293A: Andres-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
294B: Symerton-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Slow water movement	1.00	Slope	0.18
295A: Mokena-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
298A: Beecher-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
298B: Beecher-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
318C2: Lorenzo, eroded----	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Slope	0.68
318D2: Lorenzo, eroded----	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.04		
320A: Frankfort-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
320B: Frankfort-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.08

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
320C2: Frankfort, eroded---	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.68
327A: Fox-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
327B: Fox-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.08
327C2: Fox, eroded-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.68
329A: Will-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46		
330A: Peotone-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
343A: Kane-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46		
361B: Kidder-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.08

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
361C2: Kidder, eroded-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.68
361D2: Kidder, eroded-----	Very limited Seepage, bottom layer Slow water movement Slope	1.00 0.46 0.04	Very limited Seepage Slope	1.00 1.00
361E2: Kidder, eroded-----	Very limited Seepage, bottom layer Slope Slow water movement	1.00 1.00 0.46	Very limited Slope Seepage	1.00 1.00
363B: Griswold-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.08
363C2: Griswold, eroded----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.68
367: Beaches-----	Not rated		Not rated	
369B: Waupecan-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.08
370B: Saylesville-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.08
392A: Urban land-----	Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
392A: Orthents, loamy, nearly level-----	Very limited Slow water movement Depth to saturated zone	1.00 0.94	Not limited	
392B: Urban land-----	Not rated		Not rated	
Orthents, loamy, gently sloping-----	Very limited Slow water movement Depth to saturated zone	1.00 0.94	Somewhat limited Slope	0.08
442A: Mundelein-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 1.00
443B: Barrington-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 1.00 0.08
494B: Kankakee-----	Very limited Seepage, bottom layer Large stones	1.00 0.28	Very limited Seepage Slope	1.00 0.08
503B: Rockton-----	Very limited Depth to bedrock Slow water movement	1.00 1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 1.00 0.32
522B: Orthents, clayey, refuse substratum, undulating-----	Very limited Slow water movement	1.00	Somewhat limited Slope	0.08

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
522D: Orthents, clayey, refuse substratum, rolling-----	Very limited Slow water movement Slope	1.00 0.04	Very limited Slope	1.00
522F: Orthents, clayey, refuse substratum, steep-----	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
523A: Dunham-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Seepage Depth to saturated zone	1.00 1.00
526A: Grundelein-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Seepage Depth to saturated zone	1.00 1.00
529A: Selmass-----	Very limited Ponding Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 1.00 0.46	Very limited Ponding Seepage Depth to saturated zone	1.00 1.00 1.00
530B: Ozaukee-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.08 0.04
530C: Ozaukee-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.68 0.04

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
530C2: Ozaukee-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.68 0.56
530D: Ozaukee-----	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.04
530D2: Ozaukee-----	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.56
530D3: Ozaukee-----	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.75
530E: Ozaukee-----	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.56
530F: Ozaukee-----	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.04
531B: Markham-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Depth to saturated zone Slope	0.19 0.08
531C2: Markham, eroded-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.68 0.44

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
531D2: Markham, eroded-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.36
	Slope	0.04		
533: Urban land-----	Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated	
Orthents, clayey, nearly level-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
	Slow water movement	1.00		
534B: Urban land-----	Not rated		Not rated	
Orthents, clayey, gently sloping-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Slope	0.08
	Slow water movement	1.00	Depth to saturated zone	0.04
535B: Orthents, undulating, stony--	Somewhat limited		Somewhat limited	
	Slow water movement	0.72	Large stones	0.78
	Depth to saturated zone	0.40	Seepage	0.28
	Large stones	0.08	Slope	0.18
541B: Graymont-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Slow water movement	1.00	Slope	0.18
			Depth to saturated zone	0.04
560D2: St. Clair, eroded---	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.04
	Slope	0.04		

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
571A: Whitaker-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
614A: Chenoa-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
696A: Zurich-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
696B: Zurich-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.08
696C2: Zurich, eroded-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.68
696D2: Zurich, eroded-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	1.00
	Slope	0.04		
697A: Wauconda-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
698B: Grays-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.08
740A: Darroch-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
741B: Oakville-----	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Slope	0.18
741D: Oakville-----	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.04		
800A: Psammments, nearly level-----	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
802A: Orthents, loamy, nearly level-----	Very limited		Not limited	
	Slow water movement	1.00		
	Depth to saturated zone	0.94		
802B: Orthents, loamy, undulating-----	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.18
	Depth to saturated zone	0.94		

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
802D: Orthents, loamy, rolling-----	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.94 0.04	Very limited Slope	1.00
805A: Orthents, clayey, nearly level-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Depth to saturated zone	0.04
805B: Orthents, clayey, undulating-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.08 0.04
805D: Orthents, clayey, rolling-----	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.04
807A: Orthents, loamy-skeletal, nearly level-----	Very limited Slow water movement Large stones	1.00 1.00	Very limited Large stones	1.00
807B: Orthents, loamy-skeletal, undulating-----	Very limited Slow water movement Large stones	1.00 1.00	Very limited Large stones Slope	1.00 0.18
811A: Alfic Udarents, clayey-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Not limited	

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
811B: Alfic Udarents, clayey-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope	0.08
811D: Alfic Udarents, clayey-----	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.94 0.04	Very limited Slope Depth to saturated zone	1.00 0.40
822A: Alfic Udarents, clayey-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Not limited	
Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone	1.00
822B: Alfic Udarents, clayey-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope	0.08
Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.08
830: Landfills-----	Not rated		Not rated	
848B: Drummer-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 1.00

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
848B: Barrington-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 1.00 0.08
Mundelein-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 1.00
849A: Milford-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone	1.00
Martinton-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone	1.00
854B: Markham-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Depth to saturated zone Slope	0.19 0.18
Ashkum-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone	1.00
Beecher-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.08
862: Pits, sand-----	Not rated		Not rated	
863: Pits, clay-----	Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
903A: Muskego-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Subsidence	1.00	Organic matter content	1.00
Houghton-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Organic matter content	1.00
	Subsidence	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
925B: Frankfort-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.08
Bryce-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00		
969E2: Casco, eroded-----	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slope	1.00		
Rodman, eroded-----	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slope	1.00		
969F: Casco-----	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
Rodman-----	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		

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Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
973A:				
Hoopeston-----	Very limited		Very limited	
	Depth to	1.00	Seepage	1.00
	saturated zone		Depth to	1.00
	Seepage, bottom	1.00	saturated zone	
	layer			
Selma-----	Very limited		Very limited	
	Depth to	1.00	Seepage	1.00
	saturated zone		Depth to	1.00
	Seepage, bottom	1.00	saturated zone	
	layer			
	Slow water	0.46		
	movement			
1103A:				
Houghton, undrained	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Organic matter	1.00
	saturated zone		content	
	Subsidence	1.00	Depth to	1.00
	Seepage, bottom	1.00	saturated zone	
	layer		Seepage	1.00
1107A:				
Sawmill, undrained, frequently flooded	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Slow water	0.46	Seepage	0.53
	movement			
1330A:				
Peotone, undrained--	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Slow water	1.00		
	movement			
1409A:				
Aquents, clayey, undrained-----	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Slow water	1.00		
	movement			
1516A:				
Faxon, undrained, frequently flooded	Very limited		Very limited	
	Flooding	1.00	Depth to hard	1.00
	Depth to bedrock	1.00	bedrock	
	Depth to	1.00	Flooding	1.00
	saturated zone		Seepage	1.00
	Slow water	0.46	Depth to	1.00
	movement		saturated zone	

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1903A:				
Muskego, undrained--	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Subsidence	1.00	Organic matter content	1.00
Houghton, undrained	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Organic matter content	1.00
	Subsidence	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
2023B:				
Alfic Udarents, clayey-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Slope	0.08
	Slow water movement	1.00		
Urban land-----	Not rated		Not rated	
Blount-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.08
2049A:				
Orthents, loamy----	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	0.40
	Depth to saturated zone	0.94		
Urban land-----	Not rated		Not rated	
Watseka-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00		
2223B:				
Alfic Udarents, clayey-----	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.08
	Depth to saturated zone	0.94		

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2223B: Urban land-----	Not rated		Not rated	
Varna-----	Very limited		Somewhat limited	
	Depth to	1.00	Slope	0.08
	saturated zone		Depth to	0.04
	Slow water	1.00	saturated zone	
	movement			
2232A: Orthents, clayey----	Very limited		Somewhat limited	
	Depth to	1.00	Depth to	0.04
	saturated zone		saturated zone	
	Slow water	1.00		
	movement			
Urban land-----	Not rated		Not rated	
Ashkum-----	Very limited		Very limited	
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Slow water	1.00		
	movement			
2530B: Alfic Udarents, clayey-----	Very limited		Somewhat limited	
	Slow water	1.00	Slope	0.08
	movement			
	Depth to	0.94		
	saturated zone			
Urban land-----	Not rated		Not rated	
Ozaukee-----	Very limited		Somewhat limited	
	Depth to	1.00	Slope	0.08
	saturated zone		Depth to	0.04
	Slow water	1.00	saturated zone	
	movement			
2530D: Alfic Udarents, clayey-----	Very limited		Very limited	
	Slow water	1.00	Slope	1.00
	movement			
	Depth to	0.94		
	saturated zone			
	Slope	0.04		
Urban land-----	Not rated		Not rated	
Ozaukee-----	Very limited		Very limited	
	Depth to	1.00	Slope	1.00
	saturated zone		Depth to	0.04
	Slow water	1.00	saturated zone	
	movement			
	Slope	0.04		

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Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2571A: Orthents, loamy-----	Very limited Slow water movement Depth to saturated zone	1.00 0.94	Somewhat limited Seepage	0.53
Urban land-----	Not rated		Not rated	
Whitaker-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 1.00
2740A: Orthents, loamy-----	Very limited Slow water movement Depth to saturated zone	1.00 0.94	Somewhat limited Seepage	0.53
Urban land-----	Not rated		Not rated	
Darroch-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 1.00
2800A: Urban land-----	Not rated		Not rated	
Psamments, nearly level-----	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage	1.00
2800B: Urban land-----	Not rated		Not rated	
Psamments, gently sloping-----	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.08
2811A: Urban land-----	Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2811A: Alfic Udarents, clayey-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Not limited	
2811B: Urban land-----	Not rated		Not rated	
Alfic Udarents, clayey-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope	0.08
2822A: Alfic Udarents, clayey-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Not limited	
Urban land-----	Not rated		Not rated	
Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone	1.00
2822B: Alfic Udarents, clayey-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Somewhat limited Slope	0.08
Urban land-----	Not rated		Not rated	
Elliott-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.08
3107A Sawmill, frequently flooded-----	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53

Soil Survey of Cook County, Illinois

Table 15a.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3316A: Romeo-----	Very limited		Very limited	
	Flooding	1.00	Depth to hard	1.00
	Depth to bedrock	1.00	bedrock	
	Depth to	1.00	Flooding	1.00
	saturated zone		Depth to	1.00
			saturated zone	
3451A: Lawson, frequently flooded-----	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Slow water	0.46	Seepage	0.53
	movement			
4904A: Muskego, ponded-----	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Slow water	1.00	Seepage	1.00
	movement		Organic matter	1.00
	Subsidence	1.00	content	
Peotone, ponded-----	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Slow water	1.00		
	movement			
M-W: Miscellaneous water	Not rated		Not rated	
W: Water-----	Not rated		Not rated	

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Table 15b.—Sanitary Facilities

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.42			Too clayey	0.42
23B: Blount-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.53			Too clayey	0.53
49A: Watseka-----	Very limited		Very limited		Very limited	
	Seepage, bottom	1.00	Seepage	1.00	Depth to	1.00
	layer		Depth to	1.00	saturated zone	
	Too sandy	1.00	saturated zone		Seepage	1.00
	Depth to	1.00			Too sandy	1.00
	saturated zone					
54B: Plainfield-----	Very limited		Very limited		Very limited	
	Seepage, bottom	1.00	Seepage	1.00	Seepage	1.00
	layer				Too sandy	1.00
	Too sandy	1.00				
67A: Harpster-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.02			Too clayey	0.02
69A: Milford-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.61			Hard to compact	1.00
					Too clayey	0.61
91A: Swygert-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	1.00			Hard to compact	1.00
					Too clayey	1.00
91B: Swygert-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.99			Hard to compact	1.00
					Too clayey	0.99

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
103A: Houghton-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Organic matter content	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00	Organic matter content	1.00
	Seepage, bottom layer	1.00			Seepage	0.16
125A: Selma-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00			Seepage	0.52
141A: Wesley-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Seepage	1.00
146A: Elliott-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.16			Too clayey	0.16
146B: Elliott-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.11			Too clayey	0.11
152A: Drummer-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00				
153A: Pella-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00				
172A: Hoopeston-----	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.52

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
189A: Martinton-----	Very limited Depth to saturated zone Too clayey	1.00 0.30	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.30
192A: Del Rey-----	Very limited Depth to saturated zone Too clayey	1.00 0.42	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.42
201A: Gilford-----	Very limited Ponding Seepage, bottom layer Depth to saturated zone Too sandy	1.00 1.00 1.00 1.00	Very limited Ponding Seepage Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Seepage Too sandy	1.00 1.00 1.00 1.00
206A: Thorp-----	Very limited Ponding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
223B: Varna-----	Somewhat limited Too clayey Depth to saturated zone	0.68 0.68	Somewhat limited Depth to saturated zone	0.04	Very limited Hard to compact Too clayey Depth to saturated zone	1.00 0.68 0.24
223C2: Varna, eroded-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.53	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.53 0.24
228A: Nappanee-----	Very limited Depth to saturated zone Too clayey	1.00 0.95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.95
228B: Nappanee-----	Very limited Depth to saturated zone Too clayey	1.00 0.96	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.96

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
228C2: Nappanee, eroded----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.59			Hard to compact	1.00
					Too clayey	0.59
232A: Ashkum-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.45			Too clayey	0.45
235A: Bryce-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Hard to compact	1.00
					Too clayey	1.00
241D3: Chatsworth, severely eroded----	Somewhat limited		Somewhat limited		Very limited	
	Too clayey	0.99	Depth to	0.56	Hard to compact	1.00
	Depth to saturated zone	0.98	saturated zone		Too clayey	0.99
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.76
					Slope	0.04
241E3: Chatsworth, severely eroded----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Hard to compact	1.00
	Too clayey	0.98	Depth to	0.56	Slope	1.00
	Depth to saturated zone	0.98	saturated zone		Too clayey	0.98
					Depth to saturated zone	0.76
290B: Warsaw-----	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
					Gravel	0.09
293A: Andres-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.14			Too clayey	0.14
294B: Symerton-----	Somewhat limited		Not limited		Somewhat limited	
	Depth to saturated zone	0.53			Depth to saturated zone	0.14

Soil Survey of Cook County, Illinois

Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
295A: Mokena-----	Very limited Depth to saturated zone Too clayey	1.00 0.81	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.81
298A: Beecher-----	Very limited Depth to saturated zone Too clayey	1.00 0.17	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.17
298B: Beecher-----	Very limited Depth to saturated zone Too clayey	1.00 0.19	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.19
318C2: Lorenzo, eroded----	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Gravel Too sandy	1.00 0.52 0.50
318D2: Lorenzo, eroded----	Very limited Seepage, bottom layer Too sandy Slope	1.00 0.50 0.04	Very limited Seepage Slope	1.00 0.04	Very limited Seepage Too sandy Gravel Slope	1.00 0.50 0.42 0.04
320A: Frankfort-----	Very limited Depth to saturated zone Too clayey	1.00 0.88	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.88
320B: Frankfort-----	Very limited Depth to saturated zone Too clayey	1.00 0.96	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.96
320C2: Frankfort, eroded---	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 1.00
327A: Fox-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too sandy Gravel	1.00 1.00 0.03
327B: Fox-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 1.00

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
327C2: Fox, eroded-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 1.00
329A: Will-----	Very limited Ponding Seepage, bottom layer Too sandy Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Ponding Seepage Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Seepage Too sandy Gravel	1.00 1.00 1.00 1.00 0.12
330A: Peotone-----	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 0.84	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone Hard to compact Too clayey	1.00 1.00 1.00 0.84
343A: Kane-----	Very limited Seepage, bottom layer Too sandy Depth to saturated zone	1.00 1.00 1.00	Very limited Seepage Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Seepage Too sandy	1.00 1.00 1.00
361B: Kidder-----	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
361C2: Kidder, eroded-----	Very limited Seepage, bottom layer	1.00	Not limited		Not limited	
361D2: Kidder, eroded-----	Very limited Seepage, bottom layer Slope	1.00 0.04	Very limited Seepage Slope	1.00 0.04	Somewhat limited Seepage Slope	0.52 0.04
361E2: Kidder, eroded-----	Very limited Seepage, bottom layer Slope	1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Slope Seepage	1.00 0.52
363B: Griswold-----	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.22
363C2: Griswold, eroded----	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.22

Soil Survey of Cook County, Illinois

Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
367: Beaches-----	Not rated		Not rated		Not rated	
369B: Waupecan-----	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Not limited	
370B: Saylesville-----	Very limited Depth to saturated zone Too clayey	1.00 0.22	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Too clayey	0.24 0.22
392A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, nearly level-----	Not limited		Not limited		Not limited	
392B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, gently sloping-----	Not limited		Not limited		Not limited	
442A: Mundelein-----	Very limited Depth to saturated zone Seepage, bottom layer	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Seepage	1.00 0.22
443B: Barrington-----	Very limited Depth to saturated zone Seepage, bottom layer	1.00 1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.24
494B: Kankakee-----	Very limited Seepage, bottom layer Large stones	1.00 0.78	Very limited Seepage	1.00	Somewhat limited Large stones Seepage	0.78 0.52
503B: Rockton-----	Very limited Depth to bedrock Too clayey	1.00 0.13	Very limited Seepage Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Too clayey	1.00 0.13
522B: Orthents, clayey, refuse substratum, undulating-----	Somewhat limited Too clayey Large stones	0.91 0.13	Not limited		Very limited Hard to compact Too clayey Large stones	1.00 0.91 0.13

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
522D: Orthents, clayey, refuse substratum, rolling-----	Somewhat limited		Somewhat limited		Very limited	
	Too clayey	0.90	Slope	0.04	Hard to compact	1.00
	Large stones	0.21			Too clayey	0.90
	Slope	0.04			Large stones	0.21
					Slope	0.04
522F: Orthents, clayey, refuse substratum, steep-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.86			Hard to compact	1.00
	Large stones	0.50			Too clayey	0.86
					Large stones	0.50
523A: Dunham-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00		
526A: Grundelein-----	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	1.00	Seepage	1.00	Seepage	1.00
	Depth to saturated zone	1.00			Too sandy	1.00
529A: Selmass-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00	Seepage	0.22
530B: Ozaukee-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.35
	Too clayey	0.35			Depth to saturated zone	0.24
530C: Ozaukee-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.42
	Too clayey	0.42			Depth to saturated zone	0.24
530C2: Ozaukee-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.56	Depth to saturated zone	0.76
	Too clayey	0.26			Too clayey	0.26

Soil Survey of Cook County, Illinois

Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530D: Ozaukee-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to	0.68	Slope	0.04	Too clayey	0.43
	saturated zone		Depth to	0.04	Depth to	0.24
	Too clayey	0.43	saturated zone		saturated zone	
	Slope	0.04			Slope	0.04
530D2: Ozaukee-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to	0.98	Depth to	0.56	Depth to	0.76
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.25	Slope	0.04	Too clayey	0.25
	Slope	0.04			Slope	0.04
530D3: Ozaukee-----	Very limited		Somewhat limited		Somewhat limited	
	Depth to	1.00	Depth to	0.75	Depth to	0.86
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.24	Slope	0.04	Too clayey	0.24
	Slope	0.04			Slope	0.04
530E: Ozaukee-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to	0.98	Depth to	0.56	Depth to	0.76
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.23			Too clayey	0.23
530F: Ozaukee-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to	0.68	Depth to	0.04	Too clayey	0.37
	saturated zone		saturated zone		Depth to	0.24
	Too clayey	0.37			saturated zone	
531B: Markham-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to	0.86	Depth to	0.19	Depth to	0.47
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.34			Too clayey	0.34
531C2: Markham, eroded-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to	0.96	Depth to	0.44	Depth to	0.68
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.32			Too clayey	0.32
531D2: Markham, eroded-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to	0.93	Depth to	0.36	Depth to	0.62
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.32	Slope	0.04	Too clayey	0.32
	Slope	0.04			Slope	0.04
533: Urban land-----	Not rated		Not rated		Not rated	

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
534A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, nearly level-----	Very limited Too clayey Depth to saturated zone	 1.00 0.68	Somewhat limited Depth to saturated zone	 0.04	Very limited Hard to compact Too clayey Depth to saturated zone	 1.00 1.00 0.24
534B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, gently sloping-----	Very limited Too clayey Depth to saturated zone	 1.00 0.68	Somewhat limited Depth to saturated zone	 0.04	Very limited Hard to compact Too clayey Depth to saturated zone	 1.00 1.00 0.24
535B: Orthents, undulating, stony--	Very limited Depth to saturated zone Large stones	 1.00 0.08	Very limited Depth to saturated zone	 1.00	Somewhat limited Large stones	 0.08
541B: Graymont-----	Somewhat limited Depth to saturated zone Too clayey	 0.68 0.04	Somewhat limited Depth to saturated zone	 0.04	Somewhat limited Depth to saturated zone Too clayey	 0.24 0.04
560D2: St. Clair, eroded---	Very limited Too clayey Depth to saturated zone Slope	 1.00 0.68 0.04	Somewhat limited Slope Depth to saturated zone	 0.04 0.04	Very limited Hard to compact Too clayey Depth to saturated zone Slope	 1.00 1.00 0.24 0.04
571A: Whitaker-----	Very limited Depth to saturated zone Seepage, bottom layer	 1.00 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
614A: Chenoa-----	Very limited Depth to saturated zone Too clayey	 1.00 0.27	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Too clayey	 1.00 0.27
696A: Zurich-----	Very limited Depth to saturated zone Seepage, bottom layer Too sandy	 1.00 1.00 0.50	Very limited Depth to saturated zone Seepage	 1.00 1.00	Somewhat limited Too sandy Depth to saturated zone Seepage	 0.50 0.24 0.22

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
696B: Zurich-----	Very limited		Very limited		Somewhat limited	
	Depth to	1.00	Depth to	1.00	Too sandy	0.50
	saturated zone		saturated zone		Depth to	0.24
	Seepage, bottom	1.00	Seepage	1.00	saturated zone	
	layer				Seepage	0.22
	Too sandy	0.50				
696C2: Zurich, eroded-----	Very limited		Very limited		Somewhat limited	
	Depth to	1.00	Depth to	1.00	Too sandy	0.50
	saturated zone		saturated zone		Depth to	0.24
	Seepage, bottom	1.00			saturated zone	
	layer				Seepage	0.22
	Too sandy	0.50				
696D2: Zurich, eroded-----	Very limited		Very limited		Somewhat limited	
	Depth to	1.00	Depth to	1.00	Too sandy	0.50
	saturated zone		saturated zone		Depth to	0.24
	Seepage, bottom	1.00	Seepage	1.00	saturated zone	
	layer		Slope	0.04	Seepage	0.22
	Too sandy	0.50			Slope	0.04
	Slope	0.04				
697A: Wauconda-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Seepage, bottom	1.00	Seepage	1.00	Too sandy	0.50
	layer				Seepage	0.22
	Too sandy	0.50				
698B: Grays-----	Very limited		Very limited		Somewhat limited	
	Depth to	1.00	Depth to	1.00	Depth to	0.24
	saturated zone		saturated zone		saturated zone	
	Seepage, bottom	1.00				
	layer					
740A: Darroch-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Seepage, bottom	1.00	Seepage	1.00	Seepage	0.22
	layer					
741B: Oakville-----	Very limited		Very limited		Very limited	
	Seepage, bottom	1.00	Seepage	1.00	Seepage	1.00
	layer				Too sandy	1.00
	Too sandy	1.00				
741D: Oakville-----	Very limited		Very limited		Very limited	
	Seepage, bottom	1.00	Seepage	1.00	Seepage	1.00
	layer		Slope	0.04	Too sandy	1.00
	Too sandy	1.00			Slope	0.04
	Slope	0.04				

Soil Survey of Cook County, Illinois

Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
800A: Psammments, nearly level-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 1.00
802A: Orthents, loamy, nearly level-----	Not limited		Not limited		Not limited	
802B: Orthents, loamy, undulating-----	Not limited		Not limited		Not limited	
802D: Orthents, loamy, rolling-----	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04
805A: Orthents, clayey, nearly level-----	Very limited Too clayey Depth to saturated zone	1.00 0.68	Somewhat limited Depth to saturated zone	0.04	Very limited Hard to compact Too clayey Depth to saturated zone	1.00 1.00 0.24
805B: Orthents, clayey, undulating-----	Very limited Too clayey Depth to saturated zone	1.00 0.68	Somewhat limited Depth to saturated zone	0.04	Very limited Hard to compact Too clayey Depth to saturated zone	1.00 1.00 0.24
805D: Orthents, clayey, rolling-----	Very limited Too clayey Depth to saturated zone Slope	1.00 0.68 0.04	Somewhat limited Slope Depth to saturated zone	0.04 0.04	Very limited Hard to compact Too clayey Depth to saturated zone Slope	1.00 1.00 0.24 0.04
807A: Orthents, loamy-skeletal, nearly level-----	Very limited Large stones	1.00	Not limited		Very limited Large stones	1.00
807B: Orthents, loamy-skeletal, undulating-----	Very limited Large stones	1.00	Not limited		Very limited Large stones	1.00

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
811A: Alfic Udarents, clayey-----	Somewhat limited Too clayey Depth to saturated zone	 0.59 0.47	Not limited		Very limited Hard to compact Too clayey Depth to saturated zone	 1.00 0.59 0.11
811B: Alfic Udarents, clayey-----	Somewhat limited Too clayey Depth to saturated zone	 0.47 0.47	Not limited		Very limited Hard to compact Too clayey Depth to saturated zone	 1.00 0.47 0.11
811D: Alfic Udarents, clayey-----	Very limited Depth to saturated zone Too clayey Slope	 1.00 0.71 0.04	Very limited Depth to saturated zone Slope	 1.00 0.04	Very limited Hard to compact Too clayey Slope	 1.00 0.71 0.04
822A: Alfic Udarents, clayey-----	Somewhat limited Too clayey Depth to saturated zone	 0.59 0.47	Not limited		Very limited Hard to compact Too clayey Depth to saturated zone	 1.00 0.59 0.11
Elliott-----	Very limited Depth to saturated zone Too clayey	 1.00 0.16	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Too clayey	 1.00 0.16
822B: Alfic Udarents, clayey-----	Somewhat limited Too clayey Depth to saturated zone	 0.47 0.47	Not limited		Very limited Hard to compact Too clayey Depth to saturated zone	 1.00 0.47 0.11
Elliott-----	Very limited Depth to saturated zone Too clayey	 1.00 0.11	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Too clayey	 1.00 0.11
830: Landfills-----	Not rated		Not rated		Not rated	
848B: Drummer-----	Very limited Ponding Depth to saturated zone Seepage, bottom layer	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
848B:						
Barrington-----	Very limited		Very limited		Somewhat limited	
	Depth to	1.00	Depth to	1.00	Depth to	0.24
	saturated zone		saturated zone		saturated zone	
	Seepage, bottom	1.00				
	layer					
Mundelein-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Seepage, bottom	1.00			Seepage	0.22
	layer					
849A:						
Milford-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.61			Hard to compact	1.00
					Too clayey	0.61
Martinton-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.30			Hard to compact	1.00
					Too clayey	0.30
854B:						
Markham-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to	0.86	Depth to	0.19	Depth to	0.47
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.34			Too clayey	0.34
Ashkum-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.45			Too clayey	0.45
Beecher-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.19			Too clayey	0.19
862:						
Pits, sand-----	Not rated		Not rated		Not rated	
863:						
Pits, clay-----	Not rated		Not rated		Not rated	
864:						
Pits, quarry-----	Not rated		Not rated		Not rated	
865:						
Pits, gravel-----	Not rated		Not rated		Not rated	

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Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
903A:						
Muskego-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Organic matter content	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00	Hard to compact	1.00
Houghton-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Organic matter content	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00	Organic matter content	1.00
	Seepage, bottom layer	1.00			Seepage	0.16
925B:						
Frankfort-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.96			Too clayey	0.96
Bryce-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Hard to compact	1.00
					Too clayey	1.00
969E2:						
Casco, eroded-----	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00	Slope	1.00	Too sandy	1.00
	Slope	1.00			Slope	1.00
					Gravel	0.41
Rodman, eroded-----	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Slope	1.00	Slope	1.00	Gravel	1.00
	Too sandy	0.50			Slope	1.00
					Too sandy	0.50
969F:						
Casco-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00			Too sandy	1.00
					Gravel	0.54
Rodman-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Gravel	1.00
					Too sandy	0.50

Soil Survey of Cook County, Illinois

Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
973A:						
Hoopeston-----	Very limited		Very limited		Very limited	
	Seepage, bottom	1.00	Seepage	1.00	Depth to	1.00
	layer		Depth to	1.00	saturated zone	
	Depth to	1.00	saturated zone		Seepage	0.52
	saturated zone					
Selma-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Seepage, bottom	1.00	Depth to	1.00	Depth to	1.00
	layer		saturated zone		saturated zone	
	Depth to	1.00			Seepage	0.52
	saturated zone					
1103A:						
Houghton, undrained	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Organic matter	1.00	Depth to	1.00	Depth to	1.00
	content		saturated zone		saturated zone	
	Depth to	1.00	Seepage	1.00	Organic matter	1.00
	saturated zone				content	
	Seepage, bottom	1.00			Seepage	0.16
	layer					
1107A:						
Sawmill, undrained, frequently flooded	Very limited		Very limited		Very limited	
	Ponding	1.00	Flooding	1.00	Ponding	1.00
	Flooding	1.00	Ponding	1.00	Depth to	1.00
	Depth to	1.00	Depth to	1.00	saturated zone	
	saturated zone		saturated zone		Hard to compact	1.00
	Too clayey	0.05			Too clayey	0.05
1330A:						
Peotone, undrained--	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.79			Hard to compact	1.00
					Too clayey	0.79
1409A:						
Aquents, clayey, undrained-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too clayey	0.74			Hard to compact	1.00
					Too clayey	0.74
1516A:						
Faxon, undrained, frequently flooded	Very limited		Very limited		Very limited	
	Ponding	1.00	Flooding	1.00	Ponding	1.00
	Flooding	1.00	Ponding	1.00	Depth to	1.00
	Depth to bedrock	1.00	Seepage	1.00	saturated zone	
	Depth to	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	saturated zone		Depth to	1.00	Hard to compact	1.00
	Too clayey	0.02	saturated zone		Too clayey	0.02

Soil Survey of Cook County, Illinois

Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1903A:						
Muskego-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Organic matter content	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00	Hard to compact	1.00
Houghton-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Organic matter content	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00	Organic matter content	1.00
	Seepage, bottom layer	1.00			Seepage	0.16
2023B:						
Alfic Udarents, clayey-----	Somewhat limited		Not limited		Very limited	
	Too clayey	0.75			Hard to compact	1.00
	Depth to saturated zone	0.47			Too clayey	0.75
					Depth to saturated zone	0.11
Urban land-----	Not rated		Not rated		Not rated	
Blount-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.53			Too clayey	0.53
2049A:						
Orthents, loamy----	Very limited		Very limited		Not limited	
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00		
	Depth to saturated zone	1.00				
Urban land-----	Not rated		Not rated		Not rated	
Watseka-----	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	1.00
	Too sandy	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Depth to saturated zone	1.00			Too sandy	1.00
2223B:						
Alfic Udarents, clayey-----	Somewhat limited		Not limited		Very limited	
	Too clayey	0.78			Hard to compact	1.00
					Too clayey	0.78
Urban land-----	Not rated		Not rated		Not rated	
Varna-----	Somewhat limited		Somewhat limited		Very limited	
	Too clayey	0.68	Depth to saturated zone	0.04	Hard to compact	1.00
	Depth to saturated zone	0.68			Too clayey	0.68
					Depth to saturated zone	0.24

Soil Survey of Cook County, Illinois

Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2232A: Orthents, clayey----	Very limited Too clayey Depth to saturated zone	1.00 0.68	Somewhat limited Depth to saturated zone	0.04	Very limited Hard to compact Too clayey Depth to saturated zone	1.00 1.00 0.24
Urban land-----	Not rated		Not rated		Not rated	
Ashkum-----	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 0.45	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 0.45
2530B: Alfic Udarents, clayey-----	Somewhat limited Too clayey	0.65	Not limited		Very limited Hard to compact Too clayey	1.00 0.65
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.35	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.35 0.24
2530D: Alfic Udarents, clayey-----	Somewhat limited Too clayey Slope	0.65 0.04	Somewhat limited Slope	0.04	Very limited Hard to compact Too clayey Slope	1.00 0.65 0.04
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Somewhat limited Depth to saturated zone Too clayey Slope	0.68 0.43 0.04	Somewhat limited Slope Depth to saturated zone	0.04 0.04	Somewhat limited Too clayey Depth to saturated zone Slope	0.43 0.24 0.04
2571A: Orthents, loamy----	Not limited		Not limited		Not limited	
Urban land-----	Not rated		Not rated		Not rated	
Whitaker-----	Very limited Depth to saturated zone Seepage, bottom layer	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
2740A: Orthents, loamy----	Not limited		Not limited		Not limited	
Urban land-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2740A: Darroch-----	Very limited Depth to saturated zone Seepage, bottom layer	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.22
2800A: Urban land-----	Not rated		Not rated		Not rated	
Psammments, nearly level-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 1.00
2800B: Urban land-----	Not rated		Not rated		Not rated	
Psammments, gently sloping-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 1.00
2811A: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Somewhat limited Too clayey Depth to saturated zone	0.59 0.47	Not limited		Very limited Hard to compact Too clayey Depth to saturated zone	1.00 0.59 0.11
2811B: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Somewhat limited Too clayey Depth to saturated zone	0.47 0.47	Not limited		Very limited Hard to compact Too clayey Depth to saturated zone	1.00 0.47 0.11
2822A: Alfic Udarents, clayey-----	Somewhat limited Too clayey Depth to saturated zone	0.59 0.47	Not limited		Very limited Hard to compact Too clayey Depth to saturated zone	1.00 0.59 0.11
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Very limited Depth to saturated zone Too clayey	1.00 0.16	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.16

Soil Survey of Cook County, Illinois

Table 15b.—Sanitary Facilities—Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2822B: Alfic Udarents, clayey-----	Somewhat limited Too clayey Depth to saturated zone	 0.47 0.47	Not limited		Very limited Hard to compact Too clayey Depth to saturated zone	 1.00 0.47 0.11
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Very limited Depth to saturated zone Too clayey	 1.00 0.11	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Too clayey	 1.00 0.11
3107A: Sawmill, frequently flooded-----	Very limited Ponding Flooding Depth to saturated zone Too clayey	 1.00 1.00 1.00 0.05	Very limited Flooding Ponding Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Hard to compact Too clayey	 1.00 1.00 1.00 0.05
3316A: Romeo-----	Very limited Depth to bedrock Ponding Depth to saturated zone Flooding	 1.00 1.00 1.00 1.00	Very limited Flooding Ponding Depth to bedrock Depth to saturated zone	 1.00 1.00 1.00 1.00	Very limited Depth to bedrock Depth to saturated zone Flooding Ponding	 1.00 1.00 1.00 1.00
3451A: Lawson, frequently flooded-----	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone	 1.00
4904A: Muskego, ponded-----	Very limited Ponding Organic matter content Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Seepage	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Hard to compact	 1.00 1.00 1.00
Peotone, ponded-----	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 0.79	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Ponding Depth to saturated zone Hard to compact Too clayey	 1.00 1.00 1.00 0.79
M-W: Miscellaneous water	Not rated		Not rated		Not rated	
W: Water-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
23A: Blount-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
23B: Blount-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
49A: Watseka-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.19
	Thickest layer	0.00	Bottom layer	0.22
54B: Plainfield-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.59
	Thickest layer	0.00	Bottom layer	0.76
67A: Harpster-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
69A: Milford-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
91A: Swygert-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
91B: Swygert-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
103A: Houghton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
125A: Selma-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.01

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
141A: Wesley-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
146A: Elliott-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
146B: Elliott-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
152A: Drummer-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
153A: Pella-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
172A: Hoopeston-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.05
	Thickest layer	0.00	Bottom layer	0.17
189A: Martinton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
192A: Del Rey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
201A: Gilford-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.11
206A: Thorp-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
223B: Varna-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
223C2: Varna, eroded-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
228A: Nappanee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
228B: Nappanee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
228C2: Nappanee, eroded----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
232A: Ashkum-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
235A: Bryce-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
241D3: Chatsworth, severely eroded----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
241E3: Chatsworth, severely eroded----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
290B: Warsaw-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.31	Bottom layer	0.24
293A: Andres-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
294B: Symerton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
295A: Mokena-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
298A: Beecher-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
298B: Beecher-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
318C2: Lorenzo, eroded----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.16	Bottom layer	0.31
318D2: Lorenzo, eroded----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.16	Bottom layer	0.31
320A: Frankfort-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
320B: Frankfort-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
320C2: Frankfort, eroded---	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
327A: Fox-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.16	Bottom layer	0.31
327B: Fox-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.31
327C2: Fox, eroded-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.31
329A: Will-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.19	Bottom layer	0.43
330A: Peotone-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
343A: Kane-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.27	Bottom layer	0.31

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
361B: Kidder-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.03
361C2: Kidder, eroded-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.04
361D2: Kidder, eroded-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.04
361E2: Kidder, eroded-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.03
363B: Griswold-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
363C2: Griswold, eroded----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
367: Beaches-----	Not rated		Not rated	
369B: Waupecan-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.01	Bottom layer	0.51
370B: Saylesville-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
392A: Urban land-----	Not rated		Not rated	
Orthents, loamy, nearly level-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
392B: Urban land-----	Not rated		Not rated	
Orthents, loamy, gently sloping-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
442A: Mundelein-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
443B: Barrington-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
494B: Kankakee-----	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
503B: Rockton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
522B: Orthents, clayey, refuse substratum, undulating-----	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
522D: Orthents, clayey, refuse substratum, rolling-----	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
522F: Orthents, clayey, refuse substratum, steep-----	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
523A: Dunham-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.01	Bottom layer	0.17
526A: Grundelein-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.01	Bottom layer	0.17
529A: Selmass-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.16
530B: Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
530C: Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530C2: Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530D: Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530D2: Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530D3: Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530E: Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530F: Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
531B: Markham-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
531C2: Markham, eroded-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
531D2: Markham, eroded-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
533: Urban land-----	Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated	
Orthents, clayey, nearly level-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
534B: Urban land-----	Not rated		Not rated	
Orthents, clayey, gently sloping----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
535B: Orthents, undulating, stony--	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
541B: Graymont-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
560D2: St. Clair, eroded---	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
571A: Whitaker-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.02
614A: Chenoa-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
696A: Zurich-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
696B: Zurich-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
696C2: Zurich, eroded-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
696D2: Zurich, eroded-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
697A: Wauconda-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
698B: Grays-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
740A: Darroch-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
741B: Oakville-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.18
	Thickest layer	0.00	Bottom layer	0.23
741D: Oakville-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.18
	Thickest layer	0.00	Bottom layer	0.23
800A: Psammments, nearly level-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.60
	Thickest layer	0.00	Bottom layer	0.76
802A: Orthents, loamy, nearly level-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
802B: Orthents, loamy, undulating-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
802D: Orthents, loamy, rolling-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
805A: Orthents, clayey, nearly level-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
805B: Orthents, clayey, undulating-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
805D: Orthents, clayey, rolling-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
807A: Orthents, loamy-skeletal, nearly level-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
807B: Orthents, loamy-skeletal, undulating-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
811A: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
811B: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
811D: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
822A: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Elliott-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
822B: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Elliott-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
830: Landfills-----	Not rated		Not rated	
848B: Drummer-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
848B:				
Barrington-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Mundelein-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
849A:				
Milford-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Martinton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
854B:				
Markham-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Ashkum-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Beecher-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
862:				
Pits, sand-----	Not rated		Not rated	
863:				
Pits, clay-----	Not rated		Not rated	
864:				
Pits, quarry-----	Not rated		Not rated	
865:				
Pits, gravel-----	Not rated		Not rated	
903A:				
Muskego-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Houghton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
925B:				
Frankfort-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Bryce-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
969E2:				
Casco, eroded-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.04	Bottom layer	0.51
Rodman, eroded-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.39	Bottom layer	0.18
969F:				
Casco-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.04	Bottom layer	0.51
Rodman-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.39	Bottom layer	0.18
973A:				
Hoopeston-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.05
	Thickest layer	0.00	Bottom layer	0.17
Selma-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.01
1103A:				
Houghton, undrained-	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
1107A:				
Sawmill, undrained, frequently flooded-	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
1330A:				
Peotone, undrained--	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
1409A:				
Aquents, clayey, undrained-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
1516A:				
Faxon, undrained, frequently flooded	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
1903A:				
Muskego, undrained--	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
1903A: Houghton, undrained	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2023B: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land-----	Not rated		Not rated	
Blount-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2049A: Orthents, loamy----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.19
Urban land-----	Not rated		Not rated	
Watseka-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.19
	Thickest layer	0.00	Bottom layer	0.22
2223B: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land-----	Not rated		Not rated	
Varna-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2232A: Orthents, clayey----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land-----	Not rated		Not rated	
Ashkum-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2530B: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land-----	Not rated		Not rated	
Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
2530D: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land-----	Not rated		Not rated	
Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2571A: Orthents, loamy-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land-----	Not rated		Not rated	
Whitaker-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.02
2740A: Orthents, loamy-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land-----	Not rated		Not rated	
Darroch-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2800A: Urban land-----	Not rated		Not rated	
Psammments, nearly level-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.60
	Thickest layer	0.00	Bottom layer	0.76
2800B: Urban land-----	Not rated		Not rated	
Psammments, gently sloping-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.60
	Thickest layer	0.00	Bottom layer	0.76
2811A: Urban land-----	Not rated		Not rated	
Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2811B: Urban land-----	Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 16a.—Construction Materials—Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
2811B: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2822A: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land-----	Not rated		Not rated	
Elliott-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2822B: Alfic Udarents, clayey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land-----	Not rated		Not rated	
Elliott-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3107A: Sawmill, frequently flooded-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3316A: Romeo-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3451A: Lawson, frequently flooded-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
4904A: Muskego, ponded-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Peotone, ponded-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
M-W: Miscellaneous water	Not rated		Not rated	
W: Water-----	Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.01	Wetness	0.01
	Too acid	0.50				
	Carbonate content	0.68				
	Water erosion	0.90				
23B: Blount-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.01	Wetness	0.01
	Carbonate content	0.68				
	Water erosion	0.90				
49A: Watseka-----	Poor		Fair		Poor	
	Too sandy	0.00	Wetness	0.14	Too sandy	0.00
	Wind erosion	0.00			Wetness	0.14
	Low content of organic matter	0.12				
	Too acid	0.84				
	Droughtiness	0.92				
54B: Plainfield-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Droughtiness	0.12				
	Low content of organic matter	0.12				
	Too acid	0.68				
67A: Harpster-----	Fair		Poor		Poor	
	Carbonate content	0.80	Wetness	0.00	Wetness	0.00
	Too clayey	0.92	Low strength	0.00	Too clayey	0.87
	Water erosion	0.99	Shrink-swell	0.99	Carbonate content	0.96
69A: Milford-----	Fair		Poor		Poor	
	Too clayey	0.05	Wetness	0.00	Wetness	0.00
	Too acid	0.99	Low strength	0.00	Too clayey	0.04
	Water erosion	0.99	Shrink-swell	0.23		
91A: Swygert-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.14	Wetness	0.14
	Carbonate content	0.80	Shrink-swell	0.24		
	Too acid	0.97				

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91B: Swygert-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.14	Wetness	0.14
	Carbonate content	0.80	Shrink-swell	0.33		
	Too acid	0.97				
103A: Houghton-----	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness	0.00	Wetness	0.00
	Too acid	0.88				
125A: Selma-----	Good		Poor		Poor	
			Wetness	0.00	Wetness	0.00
			Shrink-swell	0.98		
141A: Wesley-----	Fair		Fair		Fair	
	Low content of organic matter	0.68	Wetness	0.14	Wetness	0.14
	Water erosion	0.99				
146A: Elliott-----	Fair		Poor		Fair	
	Low content of organic matter	0.18	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Too acid	0.84	Shrink-swell	0.82		
	Too clayey	0.92				
	Water erosion	0.99				
146B: Elliott-----	Fair		Poor		Fair	
	Low content of organic matter	0.18	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Too clayey	0.92	Shrink-swell	0.98		
	Water erosion	0.99				
152A: Drummer-----	Fair		Poor		Poor	
	Water erosion	0.99	Wetness	0.00	Wetness	0.00
			Low strength	0.00		
			Shrink-swell	0.99		
153A: Pella-----	Fair		Poor		Poor	
	Carbonate content	0.80	Wetness	0.00	Wetness	0.00
	Too clayey	0.98	Low strength	0.00	Too clayey	0.81
	Too acid	0.99				
	Water erosion	0.99				
172A: Hoopeston-----	Fair		Fair		Fair	
	Low content of organic matter	0.68	Wetness	0.14	Wetness	0.14

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
189A: Martinton-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.02
	Carbonate content	0.97	Wetness	0.14	Wetness	0.14
	Water erosion	0.99	Shrink-swell	0.49		
192A: Del Rey-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of	0.50	Wetness	0.04	Wetness	0.04
	organic matter		Shrink-swell	0.53		
	Too acid	0.61				
	Carbonate content	0.80				
	Water erosion	0.99				
201A: Gilford-----	Good		Poor		Poor	
			Wetness	0.00	Wetness	0.00
206A: Thorp-----	Fair		Poor		Poor	
	Low content of	0.68	Wetness	0.00	Wetness	0.00
	organic matter		Low strength	0.00		
	Too acid	0.84				
	Water erosion	0.90				
223B: Varna-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.89	Wetness	0.98
	Water erosion	0.99	Wetness	0.98		
223C2: Varna, eroded-----	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.06
	Low content of	0.68	Shrink-swell	0.95	Wetness	0.98
	organic matter		Wetness	0.98		
	Carbonate content	0.97				
	Water erosion	0.99				
228A: Nappanee-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of	0.12	Wetness	0.04	Wetness	0.04
	organic matter		Shrink-swell	0.87		
	Carbonate content	0.68				
	Water erosion	0.99				
	Droughtiness	0.99				
228B: Nappanee-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of	0.24	Wetness	0.04	Wetness	0.04
	organic matter		Shrink-swell	0.87		
	Carbonate content	0.68				
	Droughtiness	0.88				
	Water erosion	0.99				

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
228C2: Nappanee, eroded----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.04	Wetness	0.04
	Carbonate content	0.68	Shrink-swell	0.87		
	Droughtiness	0.79				
	Water erosion	0.99				
232A: Ashkum-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Wetness	0.00
	Low content of organic matter	0.18	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.60		
	Water erosion	0.99				
235A: Bryce-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Too clayey	0.00
	Carbonate content	0.97	Low strength	0.00	Wetness	0.00
	Too acid	0.97	Shrink-swell	0.14		
241D3: Chatsworth, severely eroded----	Poor		Poor		Poor	
	Droughtiness	0.00	Low strength	0.00	Too clayey	0.00
	Too clayey	0.00	Wetness	0.68	Wetness	0.68
	Low content of organic matter	0.12	Shrink-swell	0.87	Slope	0.96
	Carbonate content	0.97				
	Water erosion	0.99				
241E3: Chatsworth, severely eroded----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Droughtiness	0.00	Wetness	0.68	Slope	0.00
	Low content of organic matter	0.12	Shrink-swell	0.87	Wetness	0.68
	Carbonate content	0.97	Slope	0.98		
	Water erosion	0.99				
290B: Warsaw-----	Fair		Good		Poor	
	Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
	Too acid	0.84				
	Carbonate content	0.92				
293A: Andres-----	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Wetness	0.12
	Carbonate content	0.84	Wetness	0.12	Too clayey	0.64
	Water erosion	0.99	Shrink-swell	0.96		

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
294B: Symerton-----	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Rock fragments	0.12
	Too acid	0.84				
	Water erosion	0.90				
	Carbonate content	0.97				
295A: Mokena-----	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Wetness	0.14
	Carbonate content	0.97	Wetness	0.14	Too clayey	0.64
			Shrink-swell	0.89		
298A: Beecher-----	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Wetness	0.01
	Carbonate content	0.84	Wetness	0.01	Too clayey	0.55
	Water erosion	0.90				
	Too clayey	0.92				
	Too acid	0.92				
298B: Beecher-----	Fair		Poor		Poor	
	Too clayey	0.02	Wetness	0.00	Wetness	0.00
	Low content of organic matter	0.08	Low strength	0.00	Too clayey	0.01
	Carbonate content	0.84				
	Too acid	0.88				
	Water erosion	0.90				
318C2: Lorenzo, eroded-----	Poor		Good		Poor	
	Too sandy	0.00			Rock fragments	0.00
	Low content of organic matter	0.12			Too sandy	0.00
	Droughtiness	0.18			Hard to reclaim (rock fragments)	0.00
	Carbonate content	0.46			Carbonate content	0.99
318D2: Lorenzo, eroded-----	Poor		Good		Poor	
	Too sandy	0.00			Rock fragments	0.00
	Low content of organic matter	0.12			Too sandy	0.00
	Droughtiness	0.29			Hard to reclaim (rock fragments)	0.00
	Carbonate content	0.46			Slope	0.96
320A: Frankfort-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.04	Wetness	0.04
	Carbonate content	0.84	Shrink-swell	0.87		
	Water erosion	0.99				
	Droughtiness	0.99				

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Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
320B: Frankfort-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.04	Wetness	0.04
	Carbonate content	0.84	Shrink-swell	0.87		
	Water erosion	0.99				
320C2: Frankfort, eroded---	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.04	Wetness	0.04
	Droughtiness	0.70	Shrink-swell	0.87		
	Carbonate content	0.84				
	Water erosion	0.99				
327A: Fox-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Low content of organic matter	0.12			Rock fragments	0.00
	Carbonate content	0.68			Hard to reclaim (rock fragments)	0.00
	Too acid	0.92				
	Water erosion	0.99				
327B: Fox-----	Fair		Good		Fair	
	Low content of organic matter	0.12			Rock fragments	0.50
	Carbonate content	0.68			Too clayey	0.53
	Too clayey	0.92			Hard to reclaim (rock fragments)	0.92
	Water erosion	0.99				
327C2: Fox, eroded-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Low content of organic matter	0.12			Rock fragments	0.00
	Carbonate content	0.68			Hard to reclaim (rock fragments)	0.92
	Droughtiness	0.95				
329A: Will-----	Fair		Poor		Poor	
	Low content of organic matter	0.50	Wetness	0.00	Wetness	0.00
	Carbonate content	0.68			Hard to reclaim (rock fragments)	0.00
	Droughtiness	0.94				
330A: Peotone-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Wetness	0.00
	Water erosion	0.99	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.23		
343A: Kane-----	Fair		Fair		Poor	
	Low content of organic matter	0.12	Wetness	0.14	Hard to reclaim (rock fragments)	0.00
	Carbonate content	0.46			Wetness	0.14
	Too acid	0.88				

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
361B: Kidder-----	Fair		Good		Good	
	Low content of organic matter	0.12				
	Carbonate content	0.92				
361C2: Kidder, eroded-----	Fair		Good		Good	
	Low content of organic matter	0.68				
	Carbonate content	0.92				
361D2: Kidder, eroded-----	Fair		Good		Fair Slope	0.96
	Low content of organic matter	0.12				
	Carbonate content	0.92				
361E2: Kidder, eroded-----	Fair		Fair Slope	0.98	Poor Slope	0.00
	Low content of organic matter	0.12				
	Carbonate content	0.92				
363B: Griswold-----	Fair		Good		Good	
	Low content of organic matter	0.12				
	Carbonate content	0.68				
363C2: Griswold, eroded----	Fair		Good		Good	
	Low content of organic matter	0.12				
	Carbonate content	0.68				
367: Beaches-----	Not rated		Not rated		Not rated	
369B: Waupecan-----	Fair		Poor		Poor	
	Low content of organic matter	0.88	Low strength	0.00	Hard to reclaim (rock fragments)	0.00
	Too acid	0.97				
	Water erosion	0.99				
370B: Saylesville-----	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.11
	Too clayey	0.18	Shrink-swell	0.87	Wetness	0.98
	Carbonate content	0.80	Wetness	0.98		
	Water erosion	0.90				
392A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, nearly level-----	Fair		Poor		Good	
	Low content of organic matter	0.68	Low strength	0.00		
	Water erosion	0.90	Shrink-swell	0.87		

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Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
392B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, gently sloping-----	Fair		Poor		Good	
	Low content of organic matter	0.68	Low strength	0.00		
	Water erosion	0.90	Shrink-swell	0.87		
442A: Mundelein-----	Fair		Fair		Fair	
	Low content of organic matter	0.02	Wetness	0.14	Wetness	0.14
	Carbonate content	0.97				
	Water erosion	0.99				
443B: Barrington-----	Fair		Poor		Fair	
	Carbonate content	0.97	Low strength	0.00	Wetness	0.98
	Water erosion	0.99	Wetness	0.98		
494B: Kankakee-----	Fair		Fair		Poor	
	Low content of organic matter	0.12	Content of cobbles	0.01	Hard to reclaim (rock fragments)	0.00
	Content of cobbles	0.26			Rock fragments	0.00
	Too acid	0.99				
503B: Rockton-----	Fair		Poor		Fair	
	Depth to bedrock	0.90	Depth to bedrock	0.00	Too clayey	0.76
	Too clayey	0.98	Low strength	0.00	Depth to bedrock	0.90
			Shrink-swell	0.81		
522B: Orthents, clayey, refuse substratum, undulating-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Hard to reclaim (rock fragments)	0.00
	Content of stones	0.01	Shrink-swell	0.49		
	Droughtiness	0.26			Too clayey	0.00
	Low content of organic matter	0.68				
	Water erosion	0.99				
522D: Orthents, clayey, refuse substratum, rolling-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Hard to reclaim (rock fragments)	0.00
	Content of stones	0.00	Shrink-swell	0.52		
	Droughtiness	0.23			Too clayey	0.00
	Low content of organic matter	0.68			Slope	0.96
	Water erosion	0.99				

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Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
522F: Orthents, clayey, refuse substratum, steep-----	Poor		Poor		Poor	
	Content of stones	0.00	Slope	0.00	Hard to reclaim	0.00
	Too clayey	0.00	Low strength	0.00	(rock fragments)	
	Droughtiness	0.30	Shrink-swell	0.59	Slope	0.00
	Low content of organic matter	0.68	Content of stones	0.99	Too clayey	0.00
	Water erosion	0.99			Rock fragments	0.98
523A: Dunham-----	Fair		Poor		Poor	
	Carbonate content	0.46	Wetness	0.00	Wetness	0.00
	Water erosion	0.99	Low strength	0.00	Hard to reclaim	0.08
			Shrink-swell	0.99	(rock fragments)	
526A: Grundehein-----	Fair		Fair		Fair	
	Low content of organic matter	0.12	Wetness	0.14	Hard to reclaim	0.08
	Carbonate content	0.46	Shrink-swell	0.99	(rock fragments)	
	Water erosion	0.99			Wetness	0.14
529A: Selmass-----	Fair		Poor		Poor	
	Low content of organic matter	0.12	Wetness	0.00	Wetness	0.00
530B: Ozaukee-----	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.19
	Too clayey	0.32	Wetness	0.98	Wetness	0.98
	Carbonate content	0.68				
	Water erosion	0.90				
	Too acid	0.95				
530C: Ozaukee-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.24	Wetness	0.98	Wetness	0.98
	Carbonate content	0.68				
	Water erosion	0.90				
530C2: Ozaukee-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Wetness	0.68	Wetness	0.68
	Carbonate content	0.68				
	Water erosion	0.90				
530D: Ozaukee-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.24	Wetness	0.98	Slope	0.96
	Carbonate content	0.68			Wetness	0.98
	Water erosion	0.90				
	Too acid	0.95				

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Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530D2: Ozaukee-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Wetness	0.68	Wetness	0.68
	Carbonate content	0.68			Slope	0.96
	Water erosion	0.90				
	Too acid	0.95				
530D3: Ozaukee-----	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Wetness	0.53
	Carbonate content	0.68	Wetness	0.53	Too clayey	0.57
	Water erosion	0.90			Slope	0.96
	Too clayey	0.98			Rock fragments	0.98
530E: Ozaukee-----	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
	Carbonate content	0.68	Wetness	0.68	Too clayey	0.57
	Water erosion	0.90	Slope	0.98	Wetness	0.68
	Too acid	0.95			Rock fragments	0.98
	Too clayey	0.98				
530F: Ozaukee-----	Fair		Poor		Poor	
	Too clayey	0.02	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.24	Slope	0.00	Too clayey	0.01
	Carbonate content	0.68	Wetness	0.98	Wetness	0.98
	Water erosion	0.90				
531B: Markham-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Wetness	0.89	Wetness	0.89
	Too acid	0.84				
	Water erosion	0.90				
	Carbonate content	0.97				
531C2: Markham, eroded-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Wetness	0.76	Wetness	0.76
	Water erosion	0.90				
	Carbonate content	0.97				
531D2: Markham, eroded-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Wetness	0.80	Wetness	0.80
	Water erosion	0.90			Slope	0.96
	Carbonate content	0.97				
533: Urban land-----	Not rated		Not rated		Not rated	

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Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
534A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, nearly level-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Droughtiness	0.55	Shrink-swell	0.12	Wetness	0.98
	Low content of organic matter	0.68	Wetness	0.98		
	Water erosion	0.90				
534B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, gently sloping-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Droughtiness	0.53	Shrink-swell	0.12	Wetness	0.98
	Low content of organic matter	0.68	Wetness	0.98		
	Water erosion	0.90				
535B: Orthents, undulating, stony--	Poor		Poor		Poor	
	Content of stones	0.00	Content of stones	0.00	Hard to reclaim (dense layer)	0.00
	Low content of organic matter	0.02			Rock fragments	0.50
	Carbonate content	0.92			Hard to reclaim (rock fragments)	0.88
	Water erosion	0.99			Carbonate content	0.95
541B: Graymont-----	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Wetness	0.98
	Water erosion	0.90	Wetness	0.98		
	Carbonate content	0.97				
560D2: St. Clair, eroded---	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Shrink-swell	0.87	Slope	0.96
	Droughtiness	0.66	Wetness	0.98	Wetness	0.98
	Carbonate content	0.68				
	Water erosion	0.99				
571A: Whitaker-----	Fair		Poor		Fair	
	Low content of organic matter	0.88	Low strength	0.00	Wetness	0.04
	Too acid	0.97	Wetness	0.04		
			Shrink-swell	0.97		
614A: Chenoa-----	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Wetness	0.14
	Too clayey	0.18	Wetness	0.14	Too clayey	0.14
	Carbonate content	0.84	Shrink-swell	0.90		
	Water erosion	0.90				

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Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
696A: Zurich-----	Fair		Fair		Fair	
	Low content of organic matter	0.12	Wetness	0.98	Wetness	0.98
	Water erosion	0.68				
	Carbonate content	0.97				
	Too acid	0.97				
696B: Zurich-----	Fair		Fair		Fair	
	Low content of organic matter	0.12	Wetness	0.98	Wetness	0.98
	Water erosion	0.68				
	Carbonate content	0.97				
696C2: Zurich, eroded-----	Fair		Fair		Fair	
	Low content of organic matter	0.12	Wetness	0.98	Wetness	0.98
	Water erosion	0.90				
	Carbonate content	0.97				
696D2: Zurich, eroded-----	Fair		Fair		Fair	
	Low content of organic matter	0.12	Wetness	0.98	Slope Wetness	0.96 0.98
	Water erosion	0.90				
	Carbonate content	0.97				
697A: Wauconda-----	Fair		Fair		Fair	
	Low content of organic matter	0.02	Wetness	0.04	Wetness	0.04
	Water erosion	0.90				
	Carbonate content	0.97				
698B: Grays-----	Fair		Poor		Fair	
	Low content of organic matter	0.68	Low strength Wetness	0.00 0.98	Wetness	0.98
	Water erosion	0.90				
	Carbonate content	0.97				
	Too acid	0.97				
740A: Darroch-----	Fair		Fair		Fair	
	Low content of organic matter	0.12	Wetness	0.14	Wetness	0.14
	Carbonate content	0.68				
741B: Oakville-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Too acid	0.88
	Low content of organic matter	0.18				
	Too acid	0.32				
	Droughtiness	0.60				

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Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
741D: Oakville-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Slope	0.96
	Low content of organic matter	0.12				
	Droughtiness	0.54				
	Too acid	0.88				
800A: Psamments, nearly level-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Low content of organic matter	0.12				
	Droughtiness	0.70				
	Water erosion	0.90				
802A: Orthents, loamy, nearly level-----	Fair		Poor		Good	
	Low content of organic matter	0.68	Low strength	0.00		
	Water erosion	0.90	Shrink-swell	0.87		
802B: Orthents, loamy, undulating-----	Fair		Poor		Good	
	Low content of organic matter	0.68	Low strength	0.00		
	Water erosion	0.90	Shrink-swell	0.87		
802D: Orthents, loamy, rolling-----	Fair		Poor		Fair	
	Low content of organic matter	0.68	Low strength	0.00	Slope	0.96
	Water erosion	0.90	Shrink-swell	0.87		
805A: Orthents, clayey, nearly level-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Droughtiness	0.55	Shrink-swell	0.12	Wetness	0.98
	Low content of organic matter	0.68	Wetness	0.98		
	Water erosion	0.90				
805B: Orthents, clayey, undulating-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Droughtiness	0.53	Shrink-swell	0.12	Wetness	0.98
	Low content of organic matter	0.68	Wetness	0.98		
	Water erosion	0.90				

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Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
805D: Orthents, clayey, rolling-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Droughtiness	0.50	Shrink-swell	0.12	Slope	0.96
	Low content of organic matter	0.68	Wetness	0.98	Wetness	0.98
	Water erosion	0.90				
807A: Orthents, loamy-skeletal, nearly level-----	Poor		Poor		Poor	
	Content of stones	0.00	Content of stones	0.00	Hard to reclaim	0.00
	Content of cobbles	0.03	Content of cobbles	0.00	(rock fragments)	
	Low content of organic matter	0.68	Shrink-swell	0.87	Rock fragments	0.00
	Water erosion	0.99				
807B: Orthents, loamy-skeletal, undulating-----	Poor		Poor		Poor	
	Content of stones	0.00	Content of stones	0.00	Hard to reclaim	0.00
	Content of cobbles	0.01	Content of cobbles	0.00	(rock fragments)	
	Low content of organic matter	0.68	Shrink-swell	0.87	Rock fragments	0.00
	Water erosion	0.99				
811A: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.68	Shrink-swell	0.36		
	Carbonate content	0.84				
	Water erosion	0.99				
	Droughtiness	0.99				
811B: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.68	Shrink-swell	0.50		
	Carbonate content	0.84				
	Droughtiness	0.98				
	Water erosion	0.99				
811D: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.68	Shrink-swell	0.38	Slope	0.96
	Droughtiness	0.97				
	Carbonate content	0.97				
	Water erosion	0.99				

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
822A: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.68	Shrink-swell	0.36		
	Carbonate content	0.84				
	Water erosion	0.99				
	Droughtiness	0.99				
Elliott-----	Fair		Poor		Fair	
	Low content of organic matter	0.18	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Too acid	0.84	Shrink-swell	0.82		
	Too clayey	0.92				
	Water erosion	0.99				
822B: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.68	Shrink-swell	0.50		
	Carbonate content	0.84				
	Droughtiness	0.98				
	Water erosion	0.99				
Elliott-----	Fair		Poor		Fair	
	Low content of organic matter	0.18	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Too clayey	0.92	Shrink-swell	0.98		
	Water erosion	0.99				
830: Landfills-----	Not rated		Not rated		Not rated	
848B: Drummer-----	Fair		Poor		Poor	
	Water erosion	0.99	Wetness	0.00	Wetness	0.00
			Low strength	0.00		
			Shrink-swell	0.99		
Barrington-----	Fair		Poor		Fair	
	Carbonate content	0.97	Low strength	0.00	Wetness	0.98
	Water erosion	0.99	Wetness	0.98		
Mundelein-----	Fair		Fair		Fair	
	Low content of organic matter	0.02	Wetness	0.14	Wetness	0.14
	Carbonate content	0.97				
	Water erosion	0.99				
849A: Milford-----	Fair		Poor		Poor	
	Too clayey	0.05	Wetness	0.00	Wetness	0.00
	Too acid	0.99	Low strength	0.00	Too clayey	0.04
	Water erosion	0.99	Shrink-swell	0.23		

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
849A: Martinton-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.02
	Carbonate content	0.97	Wetness	0.14	Wetness	0.14
	Water erosion	0.99	Shrink-swell	0.49		
854B: Markham-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Wetness	0.89	Wetness	0.89
	Too acid	0.84				
	Water erosion	0.90				
	Carbonate content	0.97				
Ashkum-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Wetness	0.00
	Low content of organic matter	0.18	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.60		
	Water erosion	0.99				
Beecher-----	Fair		Poor		Poor	
	Too clayey	0.02	Wetness	0.00	Wetness	0.00
	Low content of organic matter	0.08	Low strength	0.00	Too clayey	0.01
	Carbonate content	0.84				
	Too acid	0.88				
	Water erosion	0.90				
862: Pits, sand-----	Not rated		Not rated		Not rated	
863: Pits, clay-----	Not rated		Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated		Not rated	
903A: Muskego-----	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness	0.00	Wetness	0.00
	Carbonate content	0.32	Low strength	0.00		
			Shrink-swell	0.87		
Houghton-----	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness	0.00	Wetness	0.00
	Too acid	0.80				
925B: Frankfort-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.04	Wetness	0.04
	Carbonate content	0.84	Shrink-swell	0.87		
	Water erosion	0.99				

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
925B: Bryce-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Too clayey	0.00
	Carbonate content	0.97	Low strength	0.00	Wetness	0.00
	Too acid	0.97	Shrink-swell	0.14		
969E2: Casco, eroded-----	Poor		Fair		Poor	
	Too sandy	0.00	Slope	0.98	Too sandy	0.00
	Low content of organic matter	0.12			Slope	0.00
	Droughtiness	0.20			Rock fragments	0.00
					Hard to reclaim (rock fragments)	0.00
Rodman, eroded-----	Poor		Fair		Poor	
	Too sandy	0.00	Slope	0.98	Hard to reclaim (rock fragments)	0.00
	Droughtiness	0.00			Rock fragments	0.00
	Carbonate content	0.46			Too sandy	0.00
	Low content of organic matter	0.50			Slope	0.00
					Carbonate content	0.88
969F: Casco-----	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Low content of organic matter	0.12			Too sandy	0.00
	Droughtiness	0.15			Rock fragments	0.00
					Hard to reclaim (rock fragments)	0.00
Rodman-----	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Hard to reclaim (rock fragments)	0.00
	Droughtiness	0.00			Rock fragments	0.00
	Carbonate content	0.46			Slope	0.00
	Low content of organic matter	0.50			Too sandy	0.00
					Carbonate content	0.97
973A: Hoopeston-----	Fair		Fair		Fair	
	Low content of organic matter	0.68	Wetness	0.14	Wetness	0.14
Selma-----	Good		Poor		Poor	
			Wetness	0.00	Wetness	0.00
			Shrink-swell	0.98		
1103A: Houghton, undrained	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness	0.00	Wetness	0.00
1107A: Sawmill, undrained, frequently flooded	Fair		Poor		Poor	
	Too clayey	0.98	Wetness	0.00	Wetness	0.00
			Low strength	0.00	Too clayey	0.98
			Shrink-swell	0.87		

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1330A: Peotone, undrained--	Fair		Poor		Poor	
	Too clayey	0.24	Wetness	0.00	Wetness	0.00
	Water erosion	0.99	Low strength	0.00	Too clayey	0.24
			Shrink-swell	0.19		
1409A: Aquents, clayey, undrained-----	Fair		Poor		Poor	
	Too clayey	0.05	Wetness	0.00	Wetness	0.00
	Droughtiness	0.35	Low strength	0.00	Too clayey	0.03
	Water erosion	0.68	Shrink-swell	0.12		
	Low content of organic matter	0.68				
1516A: Faxon, undrained, frequently flooded	Fair		Poor		Poor	
	Depth to bedrock	0.54	Depth to bedrock	0.00	Wetness	0.00
			Wetness	0.00	Depth to bedrock	0.54
			Low strength	0.00		
			Shrink-swell	0.87		
1903A: Muskego, undrained--	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness	0.00	Wetness	0.00
	Carbonate content	0.32	Low strength	0.00		
			Shrink-swell	0.87		
Houghton, undrained	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness	0.00	Wetness	0.00
2023B: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Carbonate content	0.68	Shrink-swell	0.56		
	Low content of organic matter	0.68				
	Water erosion	0.99				
	Droughtiness	0.99				
Urban land-----	Not rated		Not rated		Not rated	
Blount-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Wetness	0.01	Wetness	0.01
	Carbonate content	0.68				
	Water erosion	0.90				
2049A: Orthents, loamy----	Fair		Poor		Good	
	Low content of organic matter	0.68	Low strength	0.00		
	Water erosion	0.90	Shrink-swell	0.94		
Urban land-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2049A: Watseka-----	Poor		Fair		Poor	
	Too sandy	0.00	Wetness	0.14	Too sandy	0.00
	Wind erosion	0.00			Wetness	0.14
	Low content of organic matter	0.12				
	Too acid	0.84				
	Droughtiness	0.92				
2223B: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.68	Shrink-swell	0.49		
	Carbonate content	0.97				
	Water erosion	0.99				
Urban land-----	Not rated		Not rated		Not rated	
Varna-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.89	Wetness	0.98
	Water erosion	0.99	Wetness	0.98		
2232A: Orthents, clayey----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.68	Shrink-swell	0.21	Wetness	0.98
	Water erosion	0.90	Wetness	0.98		
Urban land-----	Not rated		Not rated		Not rated	
Ashkum-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Wetness	0.00
	Low content of organic matter	0.18	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.60		
	Water erosion	0.99				
2530B: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Carbonate content	0.68	Shrink-swell	0.56		
	Low content of organic matter	0.68				
	Droughtiness	0.94				
	Water erosion	0.99				
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.19
	Too clayey	0.32	Wetness	0.98	Wetness	0.98
	Carbonate content	0.68				
	Water erosion	0.90				
	Too acid	0.95				

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2530D: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Carbonate content	0.68	Shrink-swell	0.56	Slope	0.96
	Low content of organic matter	0.68				
	Droughtiness	0.93				
	Water erosion	0.99				
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.24	Wetness	0.98	Slope	0.96
	Carbonate content	0.68			Wetness	0.98
	Water erosion	0.90				
	Too acid	0.95				
2571A: Orthents, loamy----	Fair		Poor		Good	
	Low content of organic matter	0.68	Low strength	0.00		
	Water erosion	0.90	Shrink-swell	0.93		
Urban land-----	Not rated		Not rated		Not rated	
Whitaker-----	Fair		Poor		Fair	
	Low content of organic matter	0.88	Low strength	0.00	Wetness	0.04
	Too acid	0.97	Wetness	0.04		
			Shrink-swell	0.97		
2740A: Orthents, loamy----	Fair		Poor		Good	
	Low content of organic matter	0.68	Low strength	0.00		
	Water erosion	0.90	Shrink-swell	0.95		
Urban land-----	Not rated		Not rated		Not rated	
Darroch-----	Fair		Fair		Fair	
	Low content of organic matter	0.12	Wetness	0.14	Wetness	0.14
	Carbonate content	0.68				
2800A: Urban land-----	Not rated		Not rated		Not rated	
Psammments, nearly level-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Low content of organic matter	0.12				
	Droughtiness	0.70				
	Water erosion	0.90				

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2800B: Urban land-----	Not rated		Not rated		Not rated	
Psamments, gently sloping-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Low content of organic matter	0.12				
	Droughtiness	0.55				
	Water erosion	0.90				
2811A: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.68	Shrink-swell	0.36		
	Carbonate content	0.84				
	Water erosion	0.99				
	Droughtiness	0.99				
2811B: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.68	Shrink-swell	0.50		
	Carbonate content	0.84				
	Droughtiness	0.98				
	Water erosion	0.99				
2822A: Alfic Udarents, clayey-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.68	Shrink-swell	0.36		
	Carbonate content	0.84				
	Water erosion	0.99				
	Droughtiness	0.99				
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Fair		Poor		Fair	
	Low content of organic matter	0.18	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Too acid	0.84	Shrink-swell	0.82		
	Too clayey	0.92				
	Water erosion	0.99				

Soil Survey of Cook County, Illinois

Table 16b.—Construction Materials—Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2822B: Alfic Udarents, clayey-----	Fair Too clayey Low content of organic matter Carbonate content Droughtiness Water erosion	 0.02 0.68 0.84 0.98 0.99	Poor Low strength Shrink-swell	 0.00 0.50	Fair Too clayey	 0.01
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Fair Low content of organic matter Carbonate content Too clayey Water erosion	 0.18 0.84 0.92 0.99	Poor Low strength Wetness Shrink-swell	 0.00 0.07 0.98	Fair Wetness Too clayey	 0.07 0.55
3107A: Sawmill, frequently flooded-----	Fair Too clayey	 0.98	Poor Wetness Low strength Shrink-swell	 0.00 0.00 0.87	Poor Wetness Too clayey	 0.00 0.98
3316A: Romeo-----	Poor Droughtiness Depth to bedrock	 0.00 0.00	Poor Depth to bedrock Wetness Low strength	 0.00 0.00 0.00	Poor Wetness Depth to bedrock	 0.00 0.00
3451A: Lawson, frequently flooded-----	Fair Water erosion	 0.68	Poor Low strength Wetness	 0.00 0.14	Fair Wetness	 0.14
4904A: Muskego, ponded-----	Poor Wind erosion Carbonate content	 0.00 0.32	Poor Wetness Low strength Shrink-swell	 0.00 0.00 0.87	Poor Wetness	 0.00
Peotone, ponded-----	Fair Too clayey Water erosion	 0.24 0.99	Poor Wetness Low strength Shrink-swell	 0.00 0.00 0.19	Poor Wetness Too clayey	 0.00 0.24
M-W: Miscellaneous water	Not rated		Not rated		Not rated	
W: Water-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 17a.—Water Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.0. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
23B: Blount-----	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
49A: Watseka-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Unstable excavation walls	1.00
54B: Plainfield-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
67A: Harpster-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Unstable excavation walls	0.28 0.10
69A: Milford-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.23	Somewhat limited Slow refill Unstable excavation walls	0.28 0.10
91A: Swygert-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.52	Very limited Depth to water	1.00
91B: Swygert-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.51	Very limited Depth to water	1.00
103A: Houghton-----	Very limited Seepage	1.00	Very limited Organic matter content Depth to saturated zone	1.00 1.00	Somewhat limited Unstable excavation walls	0.10
125A: Selma-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.77	Very limited Unstable excavation walls	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141A: Wesley-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.98	Very limited Depth to water	1.00
146A: Elliott-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
146B: Elliott-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
152A: Drummer-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.01	Very limited Unstable excavation walls	1.00
153A: Pella-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.07	Very limited Unstable excavation walls	1.00
172A: Hoopeston-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.11	Very limited Unstable excavation walls	1.00
189A: Martinton-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10
192A: Del Rey-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
201A: Gilford-----	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Very limited Unstable excavation walls	1.00
206A: Thorp-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.17	Very limited Unstable excavation walls	1.00
223B: Varna-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
223C2: Varna, eroded-----	Somewhat limited Slope Seepage	0.32 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
228A: Nappanee-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
228B: Nappanee-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
228C2: Nappanee, eroded----	Somewhat limited Slope	0.32	Very limited Depth to saturated zone Hard to pack	1.00 0.44	Very limited Depth to water	1.00
232A: Ashkum-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10
235A: Bryce-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.82	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10
241D3: Chatsworth, severely eroded----	Very limited Slope	1.00	Somewhat limited Depth to saturated zone Hard to pack	0.98 0.64	Very limited Depth to water	1.00
241E3: Chatsworth, severely eroded----	Very limited Slope	1.00	Somewhat limited Depth to saturated zone Hard to pack	0.98 0.65	Very limited Depth to water	1.00
290B: Warsaw-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
293A: Andres-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
294B: Symerton-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Depth to saturated zone Piping	0.53 0.16	Very limited Depth to water	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
295A: Mokena-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
298A: Beecher-----	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
298B: Beecher-----	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
318C2: Lorenzo, eroded-----	Very limited Seepage Slope	1.00 0.32	Very limited Seepage	1.00	Very limited Depth to water	1.00
318D2: Lorenzo, eroded-----	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
320A: Frankfort-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
320B: Frankfort-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
320C2: Frankfort, eroded----	Somewhat limited Slope	0.32	Very limited Depth to saturated zone Hard to pack	1.00 0.53	Very limited Depth to water	1.00
327A: Fox-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
327B: Fox-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
327C2: Fox, eroded-----	Very limited Seepage Slope	1.00 0.32	Very limited Seepage	1.00	Very limited Depth to water	1.00
329A: Will-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Unstable excavation walls	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
330A: Peotone-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.33	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10
343A: Kane-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Unstable excavation walls	1.00
361B: Kidder-----	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
361C2: Kidder, eroded-----	Very limited Seepage Slope	1.00 0.32	Not limited		Very limited Depth to water	1.00
361D2: Kidder, eroded-----	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
361E2: Kidder, eroded-----	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
363B: Griswold-----	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
363C2: Griswold, eroded----	Very limited Seepage Slope	1.00 0.32	Not limited		Very limited Depth to water	1.00
367: Beaches-----	Not rated		Not rated		Not rated	
369B: Waupecan-----	Very limited Seepage	1.00	Somewhat limited Piping	0.67	Very limited Depth to water	1.00
370B: Saylesville-----	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone	0.68	Somewhat limited Slow refill Depth to saturated zone Unstable excavation walls	0.96 0.14 0.10
392A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, nearly level-----	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.03	Very limited Depth to water	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
392B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, loamy, gently sloping-----	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
442A: Mundelein-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.46	Somewhat limited Unstable excavation walls	0.10
443B: Barrington-----	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping	0.68 0.35	Very limited Unstable excavation walls Depth to saturated zone	1.00 0.14
494B: Kankakee-----	Very limited Seepage	1.00	Somewhat limited Large stones	0.28	Very limited Depth to water	1.00
503B: Rockton-----	Very limited Seepage Depth to bedrock Slope	1.00 0.69 0.08	Somewhat limited Thin layer	0.70	Very limited Depth to water	1.00
522B: Orthents, clayey, refuse substratum, undulating-----	Somewhat limited Seepage	0.02	Somewhat limited Hard to pack	0.43	Very limited Depth to water	1.00
522D: Orthents, clayey, refuse substratum, rolling-----	Very limited Slope Seepage	1.00 0.02	Somewhat limited Hard to pack	0.44	Very limited Depth to water	1.00
522F: Orthents, clayey, refuse substratum, steep-----	Very limited Slope Seepage	1.00 0.02	Somewhat limited Hard to pack	0.40	Very limited Depth to water	1.00
523A: Dunham-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.46	Very limited Unstable excavation walls	1.00
526A: Grundelein-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.65	Very limited Unstable excavation walls	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
529A: Selmass-----	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.83	Very limited Unstable excavation walls	1.00
530B: Ozaukee-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
530C: Ozaukee-----	Somewhat limited Slope Seepage	0.32 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
530C2: Ozaukee-----	Somewhat limited Slope Seepage	0.32 0.02	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to water	1.00
530D: Ozaukee-----	Very limited Slope Seepage	1.00 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
530D2: Ozaukee-----	Very limited Slope Seepage	1.00 0.02	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to water	1.00
530D3: Ozaukee-----	Very limited Slope Seepage	1.00 0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
530E: Ozaukee-----	Very limited Slope Seepage	1.00 0.02	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to water	1.00
530F: Ozaukee-----	Very limited Slope Seepage	1.00 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
531B: Markham-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.86	Very limited Depth to water	1.00
531C2: Markham, eroded----	Somewhat limited Slope Seepage	0.32 0.02	Somewhat limited Depth to saturated zone	0.95	Very limited Depth to water	1.00
531D2: Markham, eroded----	Very limited Slope Seepage	1.00 0.02	Somewhat limited Depth to saturated zone	0.93	Very limited Depth to water	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
533: Urban land-----	Not rated		Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, nearly level-----	Not limited		Somewhat limited Hard to pack Depth to saturated zone	0.85 0.68	Very limited Depth to water	1.00
534B: Urban land-----	Not rated		Not rated		Not rated	
Orthents, clayey, gently sloping-----	Not limited		Somewhat limited Hard to pack Depth to saturated zone	0.86 0.68	Very limited Depth to water	1.00
535B: Orthents, undulating, stony--	Somewhat limited Seepage Slope	0.54 0.02	Somewhat limited Piping Large stones	0.50 0.08	Very limited Depth to water	1.00
541B: Graymont-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
560D2: St. Clair, eroded---	Very limited Slope	1.00	Somewhat limited Hard to pack Depth to saturated zone	0.71 0.68	Very limited Depth to water	1.00
571A: Whitaker-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.34	Very limited Unstable excavation walls	1.00
614A: Chenoa-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
696A: Zurich-----	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping	0.68 0.39	Very limited Unstable excavation walls Depth to saturated zone	1.00 0.14
696B: Zurich-----	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping	0.68 0.42	Very limited Unstable excavation walls Depth to saturated zone	1.00 0.14

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
696C2: Zurich, eroded-----	Very limited Seepage Slope	1.00 0.32	Somewhat limited Depth to saturated zone Piping	0.68 0.36	Very limited Unstable excavation walls Depth to saturated zone	1.00 0.14
696D2: Zurich, eroded-----	Very limited Slope Seepage	1.00 1.00	Somewhat limited Depth to saturated zone Piping	0.68 0.37	Very limited Unstable excavation walls Depth to saturated zone	1.00 0.14
697A: Wauconda-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.78	Very limited Unstable excavation walls	1.00
698B: Grays-----	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping	0.68 0.61	Very limited Unstable excavation walls Depth to saturated zone	1.00 0.14
740A: Darroch-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.95	Somewhat limited Unstable excavation walls	0.10
741B: Oakville-----	Very limited Seepage Slope	1.00 0.02	Very limited Seepage	1.00	Very limited Depth to water	1.00
741D: Oakville-----	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
800A: Psammments, nearly level-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
802A: Orthents, loamy, nearly level-----	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
802B: Orthents, loamy, undulating-----	Somewhat limited Seepage Slope	0.04 0.02	Somewhat limited Piping	0.03	Very limited Depth to water	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
802D: Orthents, loamy, rolling-----	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
805A: Orthents, clayey, nearly level-----	Not limited		Somewhat limited Hard to pack Depth to saturated zone	0.85 0.68	Very limited Depth to water	1.00
805B: Orthents, clayey, undulating-----	Not limited		Somewhat limited Hard to pack Depth to saturated zone	0.86 0.68	Very limited Depth to water	1.00
805D: Orthents, clayey, rolling-----	Very limited Slope	1.00	Somewhat limited Hard to pack Depth to saturated zone	0.86 0.68	Very limited Depth to water	1.00
807A: Orthents, loamy-skeletal, nearly level-----	Somewhat limited Seepage	0.04	Very limited Large stones	1.00	Very limited Depth to water	1.00
807B: Orthents, loamy-skeletal, undulating-----	Somewhat limited Seepage Slope	0.04 0.02	Very limited Large stones	1.00	Very limited Depth to water	1.00
811A: Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
811B: Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
811D: Alfic Udarents, clayey-----	Very limited Slope Seepage	1.00 0.02	Not limited		Very limited Slow refill Depth to saturated zone Unstable excavation walls	1.00 0.90 0.10

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
822A: Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
Elliott-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
822B: Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
Elliott-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
830: Landfills-----	Not rated		Not rated		Not rated	
848B: Drummer-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.01	Very limited Unstable excavation walls	1.00
Barrington-----	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping	0.68 0.35	Very limited Unstable excavation walls Depth to saturated zone	1.00 0.14
Mundelein-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.46	Somewhat limited Unstable excavation walls	0.10
849A: Milford-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.23	Somewhat limited Slow refill Unstable excavation walls	0.28 0.10
Martinton-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10
854B: Markham-----	Somewhat limited Slope Seepage	0.02 0.02	Somewhat limited Depth to saturated zone	0.86	Very limited Depth to water	1.00
Ashkum-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
854B: Beecher-----	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
862: Pits, sand-----	Not rated		Not rated		Not rated	
863: Pits, clay-----	Not rated		Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated		Not rated	
903A: Muskego-----	Very limited Seepage	1.00	Very limited Organic matter content Depth to saturated zone Seepage Hard to pack	1.00 1.00 1.00 1.00	Somewhat limited Unstable excavation walls	0.50
Houghton-----	Very limited Seepage	1.00	Very limited Organic matter content Depth to saturated zone	1.00 1.00	Somewhat limited Unstable excavation walls	0.10
925B: Frankfort-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
Bryce-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 1.00 0.82	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10
969E2: Casco, eroded-----	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
Rodman, eroded-----	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
969F: Casco-----	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
Rodman-----	Very limited Seepage Slope	1.00 1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
973A: Hoopeston-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.11	Very limited Unstable excavation walls	1.00
Selma-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.77	Very limited Unstable excavation walls	1.00
1103A: Houghton, undrained	Very limited Seepage	1.00	Very limited Organic matter content Ponding Depth to saturated zone	1.00 1.00 1.00	Somewhat limited Unstable excavation walls	0.50
1107A: Sawmill, undrained, frequently flooded	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Unstable excavation walls	0.28 0.10
1330A: Peotone, undrained--	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 0.29	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10
1409A: Aquments, clayey, undrained-----	Not limited		Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10
1516A: Faxon, undrained, frequently flooded	Very limited Seepage Depth to bedrock	1.00 0.86	Very limited Depth to saturated zone Thin layer	1.00 0.86	Very limited Depth to hard bedrock Unstable excavation walls	1.00 0.50
1903A: Muskego, undrained--	Very limited Seepage	1.00	Very limited Organic matter content Ponding Depth to saturated zone Seepage Hard to pack	1.00 1.00 1.00 1.00 1.00	Somewhat limited Unstable excavation walls	0.50

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1903A: Houghton, undrained	Very limited Seepage	1.00	Very limited Organic matter content Ponding Depth to saturated zone	1.00 1.00 1.00	Somewhat limited Unstable excavation walls	0.50
2023B: Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
Urban land-----	Not rated		Not rated		Not rated	
Blount-----	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
2049A: Orthents, loamy----	Very limited Seepage	1.00	Somewhat limited Piping	0.23	Very limited Unstable excavation walls Depth to saturated zone	1.00 0.90
Urban land-----	Not rated		Not rated		Not rated	
Watseka-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Unstable excavation walls	1.00
2223B: Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Hard to pack	0.29	Very limited Depth to water	1.00
Urban land-----	Not rated		Not rated		Not rated	
Varna-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
2232A: Orthents, clayey----	Somewhat limited Seepage	0.04	Somewhat limited Hard to pack Depth to saturated zone	0.69 0.68	Very limited Depth to water	1.00
Urban land-----	Not rated		Not rated		Not rated	
Ashkum-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2530B: Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Not limited		Very limited Depth to water	1.00
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
2530D: Alfic Udarents, clayey-----	Very limited Slope Seepage	1.00 0.02	Not limited		Very limited Depth to water	1.00
Urban land-----	Not rated		Not rated		Not rated	
Ozaukee-----	Very limited Slope Seepage	1.00 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
2571A: Orthents, loamy-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.09	Very limited Depth to water	1.00
Urban land-----	Not rated		Not rated		Not rated	
Whitaker-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.34	Very limited Unstable excavation walls	1.00
2740A: Orthents, loamy-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.18	Very limited Depth to water	1.00
Urban land-----	Not rated		Not rated		Not rated	
Darroch-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.95	Somewhat limited Unstable excavation walls	0.10
2800A: Urban land-----	Not rated		Not rated		Not rated	
Psamments, nearly level-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00
2800B: Urban land-----	Not rated		Not rated		Not rated	
Psamments, gently sloping-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Depth to water	1.00

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2811A: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
2811B: Urban land-----	Not rated		Not rated		Not rated	
Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
2822A: Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
2822B: Alfic Udarents, clayey-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.46	Very limited Depth to water	1.00
Urban land-----	Not rated		Not rated		Not rated	
Elliott-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
3107A: Sawmill, frequently flooded-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Unstable excavation walls	0.28 0.10
3316A: Romeo-----	Very limited Depth to bedrock Seepage	1.00 0.02	Very limited Depth to saturated zone Thin layer Piping	1.00 1.00 0.68	Very limited Depth to hard bedrock Slow refill Unstable excavation walls	1.00 0.28 0.10
3451A: Lawson, frequently flooded-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.32	Somewhat limited Slow refill Unstable excavation walls	0.28 0.10

Soil Survey of Cook County, Illinois

Table 17a.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4904A:						
Muskego, ponded-----	Very limited Seepage	1.00	Very limited Organic matter content Ponding Depth to saturated zone Seepage Hard to pack	1.00 1.00 1.00 1.00 1.00	Somewhat limited Unstable excavation walls	0.50
Peotone, ponded-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 1.00 0.29	Somewhat limited Slow refill Unstable excavation walls	0.96 0.10
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
W:						
Water-----	Not rated		Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 17b.—Water Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Frost action Restricted permeability	1.00 0.91
23B: Blount-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Frost action Restricted permeability	1.00 0.91
49A: Watseka-----	Very limited Depth to saturated zone Droughtiness	1.00 1.00	Very limited Unstable excavation walls	1.00
54B: Plainfield-----	Very limited Droughtiness	1.00	Very limited Unstable excavation walls Depth to saturated zone	1.00 1.00
67A: Harpster-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action	1.00 1.00
69A: Milford-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.22
91A: Swygert-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Somewhat limited Restricted permeability	0.91
91B: Swygert-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Somewhat limited Restricted permeability	0.91

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
103A: Houghton-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action Subsidence	1.00 1.00 1.00
125A: Selma-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action	1.00 1.00
141A: Wesley-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Somewhat limited Restricted permeability	0.91
146A: Elliott-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Somewhat limited Restricted permeability	0.91
146B: Elliott-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Somewhat limited Restricted permeability	0.91
152A: Drummer-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action	1.00 1.00
153A: Pella-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action	1.00 1.00
172A: Hoopeston-----	Very limited Depth to saturated zone	1.00	Not limited	
189A: Martinton-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Somewhat limited Restricted permeability	0.22
192A: Del Rey-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Frost action Restricted permeability	1.00 0.91

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
201A: Gilford-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action Unstable excavation walls	1.00 1.00 1.00
206A: Thorp-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.91
223B: Varna-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.24	Somewhat limited Restricted permeability	0.91
223C2: Varna, eroded-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.24	Somewhat limited Restricted permeability Slope	0.91 0.16
228A: Nappanee-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.99	Very limited Frost action Restricted permeability	1.00 0.99
228B: Nappanee-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.99	Very limited Frost action Restricted permeability	1.00 0.99
228C2: Nappanee, eroded----	Very limited Depth to saturated zone Droughtiness Restricted permeability	1.00 1.00 0.99	Very limited Frost action Restricted permeability Slope	1.00 0.99 0.16
232A: Ashkum-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.22

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
235A: Bryce-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.91	Frost action	1.00
			Restricted permeability	0.91
241D3: Chatsworth, severely eroded----	Very limited		Somewhat limited	
	Droughtiness	1.00	Restricted	0.99
	Slope	1.00	permeability	
	Restricted permeability	0.99	Slope	0.96
	Depth to saturated zone	0.76		
241E3: Chatsworth, severely eroded----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Droughtiness	1.00	Restricted	0.99
	Restricted permeability	0.99	permeability	
	Depth to saturated zone	0.76		
290B: Warsaw-----	Not limited		Very limited	
			Unstable	1.00
			excavation walls	
			Depth to saturated zone	1.00
293A: Andres-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Restricted	0.22
	Restricted permeability	0.22	permeability	
294B: Symerton-----	Somewhat limited		Somewhat limited	
	Restricted permeability	0.91	Restricted	0.91
	Depth to saturated zone	0.14	permeability	
			Slope	0.01
295A: Mokena-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Restricted	0.91
	Restricted permeability	0.91	permeability	
298A: Beecher-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.91	Restricted	0.91
			permeability	

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
298B: Beecher-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.91	Restricted permeability	0.91
318C2: Lorenzo, eroded-----	Very limited		Very limited	
	Droughtiness	1.00	Unstable	1.00
	Content of large stones	0.30	excavation walls	
			Depth to saturated zone	1.00
			Slope	0.16
318D2: Lorenzo, eroded-----	Very limited		Very limited	
	Slope	1.00	Unstable	1.00
	Droughtiness	1.00	excavation walls	
	Content of large stones	0.30	Depth to saturated zone	1.00
			Slope	0.96
320A: Frankfort-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.99	Restricted permeability	0.99
320B: Frankfort-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.99	Restricted permeability	0.99
320C2: Frankfort, eroded---	Very limited		Very limited	
	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.99	Restricted permeability	0.99
			Slope	0.16
327A: Fox-----	Not limited		Very limited	
			Unstable	
			excavation walls	1.00
			Depth to saturated zone	1.00
327B: Fox-----	Not limited		Very limited	
			Unstable	
			excavation walls	1.00
			Depth to saturated zone	1.00

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
327C2: Fox, eroded-----	Not limited		Very limited Unstable excavation walls	1.00
			Depth to saturated zone	1.00
			Slope	0.16
329A: Will-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Unstable excavation walls	1.00
			Frost action	1.00
330A: Peotone-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00
	Restricted permeability	0.22	Frost action	1.00
			Restricted permeability	0.22
343A: Kane-----	Very limited Depth to saturated zone	1.00	Very limited Unstable excavation walls	1.00
361B: Kidder-----	Not limited		Very limited Depth to saturated zone	1.00
361C2: Kidder, eroded-----	Not limited		Very limited Depth to saturated zone	1.00
			Slope	0.16
361D2: Kidder, eroded-----	Very limited Slope	1.00	Very limited Depth to saturated zone	1.00
			Slope	0.96
361E2: Kidder, eroded-----	Very limited Slope	1.00	Very limited Slope Depth to saturated zone	1.00
				1.00
363B: Griswold-----	Not limited		Very limited Depth to saturated zone	1.00
363C2: Griswold, eroded----	Not limited		Very limited Depth to saturated zone	1.00
			Slope	0.16

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
367: Beaches-----	Not rated		Not rated	
369B: Waupecan-----	Not limited		Very limited Depth to saturated zone Frost action	1.00 1.00
370B: Saylesville-----	Somewhat limited Depth to saturated zone Restricted permeability	0.24 0.22	Somewhat limited Restricted permeability	0.22
392A: Urban land-----	Not rated		Not rated	
Orthents, loamy, nearly level-----	Very limited Water erosion Restricted permeability	1.00 0.22	Very limited Depth to saturated zone Restricted permeability	1.00 0.22
392B: Urban land-----	Not rated		Not rated	
Orthents, loamy, gently sloping-----	Very limited Water erosion Restricted permeability	1.00 0.22	Very limited Depth to saturated zone Restricted permeability	1.00 0.22
442A: Mundelein-----	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
443B: Barrington-----	Somewhat limited Depth to saturated zone	0.24	Very limited Frost action	1.00
494B: Kankakee-----	Very limited Content of large stones	1.00	Very limited Content of large stones Depth to saturated zone	1.00 1.00
503B: Rockton-----	Very limited Depth to hard bedrock Restricted permeability	1.00 0.40	Very limited Depth to saturated zone Restricted permeability Slope Depth to bedrock	1.00 0.40 0.04 0.02

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
522B: Orthents, clayey, refuse substratum, undulating-----	Very limited		Very limited	
	Droughtiness	1.00	Depth to	1.00
	Water erosion	1.00	saturated zone	
	Restricted permeability	0.91	Restricted permeability	0.91
522D: Orthents, clayey, refuse substratum, rolling-----	Very limited		Very limited	
	Droughtiness	1.00	Depth to	1.00
	Water erosion	1.00	saturated zone	
	Slope	1.00	Slope	0.96
	Restricted permeability	0.91	Restricted permeability	0.91
	Content of large stones	0.02		
522F: Orthents, clayey, refuse substratum, steep-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Droughtiness	1.00	Content of large stones	1.00
	Water erosion	1.00	Depth to	1.00
	Restricted permeability	0.91	saturated zone	
	Content of large stones	0.89	Restricted permeability	0.91
523A: Dunham-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
			Frost action	1.00
526A: Grundelein-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Unstable excavation walls	1.00
			Frost action	1.00
529A: Selmass-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
			Frost action	1.00
530B: Ozaukee-----	Somewhat limited		Somewhat limited	
	Restricted permeability	0.91	Restricted permeability	0.91
	Depth to saturated zone	0.24		
530C: Ozaukee-----	Somewhat limited		Somewhat limited	
	Restricted permeability	0.91	Restricted permeability	0.91
	Depth to saturated zone	0.24	Slope	0.16

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
530C2: Ozaukee-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.76	Somewhat limited Restricted permeability Slope	0.91 0.16
530D: Ozaukee-----	Very limited Slope Restricted permeability Depth to saturated zone	1.00 0.91 0.24	Somewhat limited Slope Restricted permeability	0.96 0.91
530D2: Ozaukee-----	Very limited Slope Restricted permeability Depth to saturated zone	1.00 0.91 0.76	Somewhat limited Slope Restricted permeability	0.96 0.91
530D3: Ozaukee-----	Very limited Water erosion Slope Restricted permeability Depth to saturated zone	1.00 1.00 0.91 0.86	Somewhat limited Slope Restricted permeability	0.96 0.91
530E: Ozaukee-----	Very limited Slope Restricted permeability Depth to saturated zone	1.00 0.91 0.76	Very limited Slope Restricted permeability	1.00 0.91
530F: Ozaukee-----	Very limited Slope Restricted permeability Depth to saturated zone	1.00 0.91 0.24	Very limited Slope Restricted permeability	1.00 0.91
531B: Markham-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.47	Somewhat limited Restricted permeability	0.91
531C2: Markham, eroded-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.68	Somewhat limited Restricted permeability Slope	0.91 0.16

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
531D2: Markham, eroded-----	Very limited		Somewhat limited	
	Slope	1.00	Slope	0.96
	Restricted permeability	0.91	Restricted permeability	0.91
	Depth to saturated zone	0.62		
533: Urban land-----	Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated	
Orthents, clayey, nearly level-----	Very limited		Somewhat limited	
	Water erosion	1.00	Restricted	0.99
	Droughtiness	1.00	permeability	
	Restricted permeability	0.99		
	Depth to saturated zone	0.24		
534B: Urban land-----	Not rated		Not rated	
Orthents, clayey, gently sloping-----	Very limited		Somewhat limited	
	Water erosion	1.00	Restricted	0.91
	Droughtiness	1.00	permeability	
	Restricted permeability	0.91		
	Depth to saturated zone	0.24		
535B: Orthents, undulating, stony--	Very limited		Very limited	
	Content of large stones	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Content of large stones	1.00
			Slope	0.01
541B: Graymont-----	Somewhat limited		Very limited	
	Restricted permeability	0.91	Frost action	1.00
	Depth to saturated zone	0.24	Restricted permeability	0.91
			Slope	0.01
560D2: St. Clair, eroded---	Very limited		Somewhat limited	
	Slope	1.00	Restricted	0.99
	Droughtiness	1.00	permeability	
	Restricted permeability	0.99	Slope	0.96
	Depth to saturated zone	0.24		

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
571A: Whitaker-----	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
614A: Chenoa-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Somewhat limited Restricted permeability	0.91
696A: Zurich-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Unstable excavation walls Frost action	1.00 1.00
696B: Zurich-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Unstable excavation walls Frost action	1.00 1.00
696C2: Zurich, eroded-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Unstable excavation walls Frost action Slope	1.00 1.00 0.16
696D2: Zurich, eroded-----	Very limited Water erosion Slope Depth to saturated zone	1.00 1.00 0.24	Very limited Unstable excavation walls Frost action Slope	1.00 1.00 0.96
697A: Wauconda-----	Very limited Depth to saturated zone Water erosion	1.00 1.00	Very limited Unstable excavation walls Frost action	1.00 1.00
698B: Grays-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Frost action	1.00
740A: Darroch-----	Very limited Depth to saturated zone	1.00	Not limited	
741B: Oakville-----	Very limited Droughtiness	1.00	Very limited Unstable excavation walls Depth to saturated zone Slope	1.00 1.00 0.01

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
741D: Oakville-----	Very limited		Very limited	
	Slope	1.00	Unstable	1.00
	Droughtiness	1.00	excavation walls	
			Depth to	1.00
			saturated zone	
			Slope	0.96
800A: Psammments, nearly level-----	Very limited		Very limited	
	Water erosion	1.00	Unstable	1.00
	Droughtiness	1.00	excavation walls	
	Restricted	0.22	Depth to	1.00
	permeability		saturated zone	
			Restricted	0.22
			permeability	
802A: Orthents, loamy, nearly level-----	Very limited		Very limited	
	Water erosion	1.00	Depth to	1.00
	Restricted	0.22	saturated zone	
	permeability		Restricted	0.22
			permeability	
802B: Orthents, loamy, undulating-----	Very limited		Very limited	
	Water erosion	1.00	Depth to	1.00
	Restricted	0.22	saturated zone	
	permeability		Restricted	0.22
			permeability	
			Slope	0.01
802D: Orthents, loamy, rolling-----	Very limited		Very limited	
	Water erosion	1.00	Depth to	1.00
	Slope	1.00	saturated zone	
	Restricted	0.22	Slope	0.96
	permeability		Restricted	0.22
			permeability	
805A: Orthents, clayey, nearly level-----	Very limited		Somewhat limited	
	Water erosion	1.00	Restricted	0.99
	Droughtiness	1.00	permeability	
	Restricted	0.99		
	permeability			
	Depth to	0.24		
	saturated zone			

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
805B: Orthents, clayey, undulating-----	Very limited Water erosion Droughtiness Restricted permeability Depth to saturated zone	 1.00 1.00 0.91 0.24	Somewhat limited Restricted permeability	 0.91
805D: Orthents, clayey, rolling-----	Very limited Water erosion Slope Droughtiness Restricted permeability Depth to saturated zone	 1.00 1.00 1.00 0.99 0.24	Somewhat limited Restricted permeability Slope	 0.99 0.96
807A: Orthents, loamy-skeletal, nearly level-----	Very limited Content of large stones Water erosion Restricted permeability	 1.00 1.00 0.22	Very limited Content of large stones Depth to saturated zone Restricted permeability	 1.00 1.00 0.22
807B: Orthents, loamy-skeletal, undulating-----	Very limited Content of large stones Water erosion Restricted permeability	 1.00 1.00 0.22	Very limited Content of large stones Depth to saturated zone Restricted permeability Slope	 1.00 1.00 0.22 0.01
811A: Alfic Udarents, clayey-----	Very limited Water erosion Droughtiness Restricted permeability Depth to saturated zone	 1.00 1.00 0.91 0.11	Very limited Depth to saturated zone Restricted permeability	 1.00 0.91

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
811B: Alfic Udarents, clayey-----	Very limited		Very limited	
	Water erosion	1.00	Depth to	1.00
	Droughtiness	1.00	saturated zone	
	Restricted	0.91	Restricted	0.91
	permeability		permeability	
	Depth to	0.11		
	saturated zone			
811D: Alfic Udarents, clayey-----	Very limited		Very limited	
	Water erosion	1.00	Depth to	1.00
	Slope	1.00	saturated zone	
	Droughtiness	1.00	Slope	0.96
	Restricted	0.91	Restricted	0.91
	permeability		permeability	
822A: Alfic Udarents, clayey-----	Very limited		Very limited	
	Water erosion	1.00	Depth to	1.00
	Droughtiness	1.00	saturated zone	
	Restricted	0.91	Restricted	0.91
	permeability		permeability	
	Depth to	0.11		
	saturated zone			
Elliott-----	Very limited		Somewhat limited	
	Depth to	1.00	Restricted	0.91
	saturated zone		permeability	
	Restricted	0.91		
	permeability			
822B: Alfic Udarents, clayey-----	Very limited		Very limited	
	Water erosion	1.00	Depth to	1.00
	Droughtiness	1.00	saturated zone	
	Restricted	0.91	Restricted	0.91
	permeability		permeability	
	Depth to	0.11		
	saturated zone			
Elliott-----	Very limited		Somewhat limited	
	Depth to	1.00	Restricted	0.91
	saturated zone		permeability	
	Restricted	0.91		
	permeability			
830: Landfills-----	Not rated		Not rated	
848B: Drummer-----	Very limited		Very limited	
	Depth to	1.00	Ponding	1.00
	saturated zone		Frost action	1.00

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Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
848B:				
Barrington-----	Somewhat limited Depth to saturated zone	0.24	Very limited Frost action	1.00
Mundelein-----	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
849A:				
Milford-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.22
Martinton-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Somewhat limited Restricted permeability	0.22
854B:				
Markham-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.47	Somewhat limited Restricted permeability Slope	0.91 0.01
Ashkum-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.22
Beecher-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Frost action Restricted permeability	1.00 0.91
862:				
Pits, sand-----	Not rated		Not rated	
863:				
Pits, clay-----	Not rated		Not rated	
864:				
Pits, quarry-----	Not rated		Not rated	
865:				
Pits, gravel-----	Not rated		Not rated	
903A:				
Muskego-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Ponding Frost action Subsidence Restricted permeability	1.00 1.00 1.00 0.91

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Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
903A: Houghton-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action Subsidence	1.00 1.00 1.00
925B: Frankfort-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.99	Very limited Frost action Restricted permeability	1.00 0.99
Bryce-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.91
969E2: Casco, eroded-----	Very limited Slope Droughtiness Content of large stones	1.00 1.00 0.13	Very limited Slope Unstable excavation walls Depth to saturated zone	1.00 1.00 1.00 1.00
Rodman, eroded-----	Very limited Slope Droughtiness	1.00 1.00	Very limited Slope Unstable excavation walls Depth to saturated zone	1.00 1.00 1.00 1.00
969F: Casco-----	Very limited Slope Droughtiness Content of large stones	1.00 1.00 0.24	Very limited Slope Unstable excavation walls Depth to saturated zone	1.00 1.00 1.00 1.00
Rodman-----	Very limited Slope Droughtiness	1.00 1.00	Very limited Slope Unstable excavation walls Depth to saturated zone	1.00 1.00 1.00 1.00
973A: Hoopeston-----	Very limited Depth to saturated zone	1.00	Not limited	
Selma-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action	1.00 1.00

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1103A: Houghton, undrained	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action Subsidence	1.00 1.00 1.00
1107A: Sawmill, undrained, frequently flooded	Very limited Depth to saturated zone	1.00	Very limited Ponding Flooding Frost action	1.00 1.00 1.00
1330A: Peotone, undrained--	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.22
1409A: Aguents, clayey, undrained-----	Very limited Depth to saturated zone Water erosion Droughtiness Restricted permeability	1.00 1.00 1.00 0.99	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.99
1516A: Faxon, undrained, frequently flooded	Very limited Depth to hard bedrock Depth to saturated zone	1.00 1.00	Very limited Ponding Flooding Frost action Depth to bedrock	1.00 1.00 1.00 0.12
1903A: Muskego-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Ponding Frost action Subsidence Restricted permeability	1.00 1.00 1.00 0.91
Houghton-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Frost action Subsidence	1.00 1.00 1.00
2023B: Alfic Udarents, clayey-----	Very limited Water erosion Droughtiness Restricted permeability Depth to saturated zone	1.00 1.00 0.91 0.11	Very limited Depth to saturated zone Restricted permeability	1.00 0.91

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Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2023B: Urban land-----	Not rated		Not rated	
Blount-----	Very limited		Very limited	
	Depth to	1.00	Frost action	1.00
	saturated zone		Restricted	0.91
	Restricted	0.91	permeability	
	permeability			
2049A: Orthents, loamy----	Very limited		Very limited	
	Water erosion	1.00	Depth to	1.00
	Restricted	0.22	saturated zone	
	permeability		Restricted	0.22
			permeability	
Urban land-----	Not rated		Not rated	
Watseka-----	Very limited		Very limited	
	Depth to	1.00	Unstable	1.00
	saturated zone		excavation walls	
	Droughtiness	1.00		
2223B: Alfic Udarents, clayey-----	Very limited		Very limited	
	Water erosion	1.00	Depth to	1.00
	Droughtiness	1.00	saturated zone	
	Restricted	0.91	Restricted	0.91
	permeability		permeability	
Urban land-----	Not rated		Not rated	
Varna-----	Somewhat limited		Somewhat limited	
	Restricted	0.91	Restricted	0.91
	permeability		permeability	
	Depth to	0.24		
	saturated zone			
2232A: Orthents, clayey----	Very limited		Somewhat limited	
	Water erosion	1.00	Restricted	0.99
	Droughtiness	1.00	permeability	
	Restricted	0.99		
	permeability			
	Depth to	0.24		
	saturated zone			
Urban land-----	Not rated		Not rated	
Ashkum-----	Very limited		Very limited	
	Depth to	1.00	Ponding	1.00
	saturated zone		Frost action	1.00
	Restricted	0.22	Restricted	0.22
	permeability		permeability	

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2530B: Alfic Udarents, clayey-----	Very limited Water erosion Droughtiness Restricted permeability	 1.00 1.00 0.91	Very limited Depth to saturated zone Restricted permeability	 1.00 0.91
Urban land-----	Not rated		Not rated	
Ozaukee-----	Somewhat limited Restricted permeability Depth to saturated zone	 0.91 0.24	Somewhat limited Restricted permeability	 0.91
2530D: Alfic Udarents, clayey-----	Very limited Water erosion Slope Droughtiness Restricted permeability	 1.00 1.00 1.00 0.91	Very limited Depth to saturated zone Slope Restricted permeability	 1.00 0.96 0.91
Urban land-----	Not rated		Not rated	
Ozaukee-----	Very limited Slope Restricted permeability Depth to saturated zone	 1.00 0.91 0.24	Somewhat limited Slope Restricted permeability	 0.96 0.91
2571A: Orthents, loamy-----	Very limited Water erosion Restricted permeability	 1.00 0.22	Very limited Depth to saturated zone Restricted permeability	 1.00 0.22
Urban land-----	Not rated		Not rated	
Whitaker-----	Very limited Depth to saturated zone	 1.00	Very limited Frost action	 1.00
2740A: Orthents, loamy-----	Very limited Water erosion Restricted permeability	 1.00 0.22	Very limited Depth to saturated zone Restricted permeability	 1.00 0.22
Urban land-----	Not rated		Not rated	
Darroch-----	Very limited Depth to saturated zone	 1.00	Not limited	

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2800A: Urban land-----	Not rated		Not rated	
Psamments, nearly level-----	Very limited Water erosion Droughtiness Restricted permeability	1.00 1.00 0.22	Very limited Unstable excavation walls Depth to saturated zone Restricted permeability	1.00 1.00 1.00 0.22
2800B: Urban land-----	Not rated		Not rated	
Psamments, gently sloping-----	Very limited Water erosion Droughtiness Restricted permeability	1.00 1.00 0.22	Very limited Unstable excavation walls Depth to saturated zone Restricted permeability	1.00 1.00 1.00 0.22
2811A: Urban land-----	Not rated		Not rated	
Alfic Udarents, clayey-----	Very limited Water erosion Droughtiness Restricted permeability Depth to saturated zone	1.00 1.00 0.91 0.11	Very limited Depth to saturated zone Restricted permeability	1.00 1.00 0.91
2811B: Urban land-----	Not rated		Not rated	
Alfic Udarents, clayey-----	Very limited Water erosion Droughtiness Restricted permeability Depth to saturated zone	1.00 1.00 0.91 0.11	Very limited Depth to saturated zone Restricted permeability	1.00 1.00 0.91
2822A: Alfic Udarents, clayey-----	Very limited Water erosion Droughtiness Restricted permeability Depth to saturated zone	1.00 1.00 0.91 0.11	Very limited Depth to saturated zone Restricted permeability	1.00 1.00 0.91
Urban land-----	Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2822A: Elliott-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91		
2822B: Alfic Udarents, clayey-----	Very limited		Very limited	
	Water erosion	1.00	Depth to saturated zone	1.00
	Droughtiness	1.00	Restricted permeability	0.91
	Restricted permeability	0.91		
	Depth to saturated zone	0.11		
Urban land-----	Not rated		Not rated	
Elliott-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91		
3107A: Sawmill, frequently flooded-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
			Flooding	1.00
			Frost action	1.00
3316A: Romeo-----	Very limited		Very limited	
	Depth to hard bedrock	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Droughtiness	1.00	Frost action	1.00
			Unstable excavation walls	1.00
			Depth to bedrock	0.88
3451A: Lawson, frequently flooded-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
			Frost action	1.00
4904A: Muskego, ponded-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.91	Frost action	1.00
			Subsidence	1.00
			Restricted permeability	0.91
Peotone, ponded-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.22	Frost action	1.00
			Restricted permeability	0.22

Soil Survey of Cook County, Illinois

Table 17b.—Water Management—Continued

Map symbol and soil name	Grassed waterways		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value
M-W: Miscellaneous water	Not rated		Not rated	
W: Water-----	Not rated		Not rated	

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Table 17C.—Water Management

(Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The lower the value, the lower the likelihood that the soil will promote pesticide runoff or leaching. See text for further explanation of ratings in this table)

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
23A: Blount-----	Very limited Wetness	1.00	Not limited	
23B: Blount-----	Very limited Wetness	1.00	Very limited Excess runoff	1.00
49A: Watseka-----	Very limited Wetness Seepage	1.00 1.00	Not limited	
54B: Plainfield-----	Very limited Seepage Low adsorption	1.00 0.50	Not limited	
67A: Harpster-----	Very limited Wetness	1.00	Not limited	
69A: Milford-----	Very limited Wetness	1.00	Not limited	
91A: Swygert-----	Very limited Wetness	1.00	Not limited	
91B: Swygert-----	Very limited Wetness	1.00	Not limited	
103A: Houghton-----	Very limited Wetness	1.00	Not limited	
125A: Selma-----	Very limited Wetness	1.00	Not limited	
141A: Wesley-----	Very limited Wetness Seepage	1.00 1.00	Not limited	
146A: Elliott-----	Very limited Wetness	1.00	Not limited	
146B: Elliott-----	Very limited Wetness	1.00	Not limited	

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
152A: Drummer-----	Very limited Wetness	1.00	Not limited	
153A: Pella-----	Very limited Wetness	1.00	Not limited	
172A: Hoopeston-----	Very limited Wetness Seepage	1.00 0.50	Not limited	
189A: Martinton-----	Very limited Wetness	1.00	Not limited	
192A: Del Rey-----	Very limited Wetness	1.00	Not limited	
201A: Gilford-----	Very limited Wetness Seepage	1.00 0.50	Not limited	
206A: Thorp-----	Very limited Wetness	1.00	Not limited	
223B: Varna-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
223C2: Varna, eroded-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
228A: Nappanee-----	Very limited Wetness	1.00	Not limited	
228B: Nappanee-----	Very limited Wetness	1.00	Very limited Excess runoff	1.00
228C2: Nappanee, eroded----	Very limited Wetness	1.00	Very limited Excess runoff	1.00
232A: Ashkum-----	Very limited Wetness	1.00	Not limited	
235A: Bryce-----	Very limited Wetness	1.00	Not limited	

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
241D3: Chatsworth, severely eroded----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
241E3: Chatsworth, severely eroded----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
290B: Warsaw-----	Somewhat limited Seepage	0.50	Somewhat limited Excess runoff	0.50
293A: Andres-----	Very limited Wetness	1.00	Not limited	
294B: Symerton-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
295A: Mokena-----	Very limited Wetness	1.00	Not limited	
298A: Beecher-----	Very limited Wetness	1.00	Not limited	
298B: Beecher-----	Very limited Wetness	1.00	Not limited	
318C2: Lorenzo, eroded----	Very limited Seepage Low adsorption	1.00 0.50	Somewhat limited Excess runoff	0.50
318D2: Lorenzo, eroded----	Very limited Seepage	1.00	Somewhat limited Excess runoff	0.50
320A: Frankfort-----	Very limited Wetness	1.00	Not limited	
320B: Frankfort-----	Very limited Wetness	1.00	Very limited Excess runoff	1.00
320C2: Frankfort, eroded----	Very limited Wetness	1.00	Very limited Excess runoff	1.00
327A: Fox-----	Somewhat limited Low adsorption Seepage	0.50 0.50	Not limited	

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
327B: Fox-----	Somewhat limited Low adsorption Seepage	0.50 0.50	Somewhat limited Excess runoff	0.50
327C2: Fox, eroded-----	Somewhat limited Low adsorption Seepage	0.50 0.50	Somewhat limited Excess runoff	0.50
329A: Will-----	Very limited Wetness Seepage	1.00 0.50	Not limited	
330A: Peotone-----	Very limited Wetness	1.00	Not limited	
343A: Kane-----	Very limited Wetness Seepage	1.00 0.50	Not limited	
361B: Kidder-----	Not limited		Somewhat limited Excess runoff	0.50
361C2: Kidder, eroded-----	Somewhat limited Low adsorption	0.50	Somewhat limited Excess runoff	0.50
361D2: Kidder, eroded-----	Somewhat limited Low adsorption	0.50	Somewhat limited Excess runoff	0.50
361E2: Kidder, eroded-----	Not limited		Very limited Excess runoff	1.00
363B: Griswold-----	Not limited		Somewhat limited Excess runoff	0.50
363C2: Griswold, eroded----	Not limited		Somewhat limited Excess runoff	0.50
367: Beaches-----	Not rated		Not rated	
369B: Waupecan-----	Somewhat limited Seepage	0.50	Somewhat limited Excess runoff	0.50
370B: Saylesville-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
392A: Urban land-----	Not rated		Not rated	
Orthents, loamy, nearly level-----	Not limited		Not limited	
392B: Urban land-----	Not rated		Not rated	
Orthents, loamy, gently sloping-----	Not limited		Somewhat limited Excess runoff	0.50
442A: Mundelein-----	Very limited Wetness	1.00	Not limited	
443B: Barrington-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
494B: Kankakee-----	Not limited		Somewhat limited Excess runoff	0.50
503B: Rockton-----	Somewhat limited Seepage	0.50	Somewhat limited Excess runoff	0.50
522B: Orthents, clayey, refuse substratum, undulating-----	Not limited		Very limited Excess runoff	1.00
522D: Orthents, clayey, refuse substratum, rolling-----	Not limited		Very limited Excess runoff	1.00
522F: Orthents, clayey, refuse substratum, steep-----	Not limited		Very limited Excess runoff	1.00
523A: Dunham-----	Very limited Wetness Seepage	1.00 0.50	Not limited	
526A: Grundelein-----	Very limited Wetness Seepage	1.00 0.50	Not limited	

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
529A: Selmass-----	Very limited Wetness Seepage	1.00 0.50	Not limited	
530B: Ozaukee-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
530C: Ozaukee-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
530C2: Ozaukee-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
530D: Ozaukee-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
530D2: Ozaukee-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
530D3: Ozaukee-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
530E: Ozaukee-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
530F: Ozaukee-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
531B: Markham-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
531C2: Markham, eroded----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
531D2: Markham, eroded----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
533: Urban land-----	Not rated		Not rated	
534A: Urban land-----	Not rated		Not rated	
Orthents, clayey, nearly level-----	Somewhat limited Wetness	0.50	Not limited	

Soil Survey of Cook County, Illinois

Table 17C.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
534B: Urban land-----	Not rated		Not rated	
Orthents, clayey, gently sloping-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
535B: Orthents, undulating, stony--	Somewhat limited Low adsorption	0.50	Somewhat limited Excess runoff	0.50
541B: Graymont-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
560D2: St. Clair, eroded---	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
571A: Whitaker-----	Very limited Wetness	1.00	Not limited	
614A: Chenoa-----	Very limited Wetness	1.00	Not limited	
696A: Zurich-----	Somewhat limited Wetness	0.50	Not limited	
696B: Zurich-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
696C2: Zurich, eroded-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
696D2: Zurich, eroded-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
697A: Wauconda-----	Very limited Wetness	1.00	Not limited	
698B: Grays-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
740A: Darroch-----	Very limited Wetness	1.00	Not limited	
741B: Oakville-----	Very limited Low adsorption Seepage	1.00 1.00	Not limited	

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
741D: Oakville-----	Very limited Low adsorption Seepage	1.00 1.00	Somewhat limited Excess runoff	0.50
800A: Psammments, nearly level-----	Very limited Seepage	1.00	Not limited	
802A: Orthents, loamy, nearly level-----	Not limited		Not limited	
802B: Orthents, loamy, undulating-----	Not limited		Somewhat limited Excess runoff	0.50
802D: Orthents, loamy, rolling-----	Not limited		Somewhat limited Excess runoff	0.50
805A: Orthents, clayey, nearly level-----	Somewhat limited Wetness	0.50	Not limited	
805B: Orthents, clayey, undulating-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
805D: Orthents, clayey, rolling-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
807A: Orthents, loamy-skeletal, nearly level-----	Not limited		Not limited	
807B: Orthents, loamy-skeletal, undulating-----	Not limited		Somewhat limited Excess runoff	0.50
811A: Alfic Udarents, clayey-----	Somewhat limited Wetness	0.50	Not limited	
811B: Alfic Udarents, clayey-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
811D: Alfic Udarents, clayey-----	Not limited		Somewhat limited Excess runoff	0.50
822A: Alfic Udarents, clayey-----	Somewhat limited Wetness	0.50	Not limited	
Elliott-----	Very limited Wetness	1.00	Not limited	
822B: Alfic Udarents, clayey-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
Elliott-----	Very limited Wetness	1.00	Not limited	
830: Landfills-----	Not rated		Not rated	
848B: Drummer-----	Very limited Wetness	1.00	Not limited	
Barrington-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
Mundelein-----	Very limited Wetness	1.00	Not limited	
849A: Milford-----	Very limited Wetness	1.00	Not limited	
Martinton-----	Very limited Wetness	1.00	Not limited	
854B: Markham-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
Ashkum-----	Very limited Wetness	1.00	Not limited	
Beecher-----	Very limited Wetness	1.00	Not limited	
862: Pits, sand-----	Not rated		Not rated	
863: Pits, clay-----	Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated	

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
865: Pits, gravel-----	Not rated		Not rated	
903A: Muskego-----	Very limited Wetness	1.00	Not limited	
Houghton-----	Very limited Wetness	1.00	Not limited	
925B: Frankfort-----	Very limited Wetness	1.00	Very limited Excess runoff	1.00
Bryce-----	Very limited Wetness	1.00	Not limited	
969E2: Casco, eroded-----	Very limited Seepage	1.00	Very limited Excess runoff	1.00
Rodman, eroded-----	Very limited Seepage	1.00	Somewhat limited Excess runoff	0.50
969F: Casco-----	Very limited Seepage	1.00	Very limited Excess runoff	1.00
Rodman-----	Very limited Seepage	1.00	Somewhat limited Excess runoff	0.50
973A: Hoopeston-----	Very limited Wetness Seepage	1.00 0.50	Not limited	
Selma-----	Very limited Wetness	1.00	Not limited	
1103A: Houghton, undrained	Very limited Wetness	1.00	Not limited	
1107A: Sawmill, undrained, frequently flooded	Very limited Wetness	1.00	Very limited Flooding	1.00
1330A: Peotone, undrained--	Very limited Wetness	1.00	Not limited	
1409A: Aquents, clayey, undrained-----	Very limited Wetness	1.00	Not limited	
1516A: Faxon, undrained, frequently flooded	Very limited Wetness Seepage	1.00 0.50	Very limited Flooding	1.00

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1903A: Muskego-----	Very limited Wetness	1.00	Not limited	
Houghton-----	Very limited Wetness	1.00	Not limited	
2023B: Alfic Udarents, clayey-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
Urban land-----	Not rated		Not rated	
Blount-----	Very limited Wetness	1.00	Very limited Excess runoff	1.00
2049A: Orthents, loamy-----	Somewhat limited Seepage	0.50	Not limited	
Urban land-----	Not rated		Not rated	
Watseka-----	Very limited Wetness Seepage	1.00 1.00	Not limited	
2223B: Alfic Udarents, clayey-----	Not limited		Somewhat limited Excess runoff	0.50
Urban land-----	Not rated		Not rated	
Varna-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
2232A: Orthents, clayey-----	Somewhat limited Wetness	0.50	Not limited	
Urban land-----	Not rated		Not rated	
Ashkum-----	Very limited Wetness	1.00	Not limited	
2530B: Alfic Udarents, clayey-----	Not limited		Somewhat limited Excess runoff	0.50
Urban land-----	Not rated		Not rated	
Ozaukee-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
2530D: Alfic Udarents, clayey-----	Not limited		Somewhat limited Excess runoff	0.50

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2530D:				
Urban land-----	Not rated		Not rated	
Ozaukee-----	Somewhat limited Wetness	0.50	Somewhat limited Excess runoff	0.50
2571A:				
Orthents, loamy-----	Not limited		Not limited	
Urban land-----	Not rated		Not rated	
Whitaker-----	Very limited Wetness	1.00	Not limited	
2740A:				
Orthents, loamy-----	Not limited		Not limited	
Urban land-----	Not rated		Not rated	
Darroch-----	Very limited Wetness	1.00	Not limited	
2800A:				
Urban land-----	Not rated		Not rated	
Psammments, nearly level-----	Very limited Seepage	1.00	Not limited	
2800B:				
Urban land-----	Not rated		Not rated	
Psammments, gently sloping-----	Very limited Seepage	1.00	Somewhat limited Excess runoff	0.50
2811A:				
Urban land-----	Not rated		Not rated	
Alfic Udarents, clayey-----	Somewhat limited Wetness	0.50	Not limited	
2811B:				
Urban land-----	Not rated		Not rated	
Alfic Udarents, clayey-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
2822A:				
Alfic Udarents, clayey-----	Somewhat limited Wetness	0.50	Not limited	
Urban land-----	Not rated		Not rated	
Elliott-----	Very limited Wetness	1.00	Not limited	

Soil Survey of Cook County, Illinois

Table 17c.—Water Management—Continued

Map symbol and soil name	Leaching		Surface runoff	
	Rating class and limiting features	Value	Rating class and limiting features	Value
2822B: Alfic Udarents, clayey-----	Somewhat limited Wetness	0.50	Very limited Excess runoff	1.00
Urban land-----	Not rated		Not rated	
Elliott-----	Very limited Wetness	1.00	Not limited	
3107A: Sawmill, frequently flooded-----	Very limited Wetness	1.00	Very limited Flooding	1.00
3316A: Romeo-----	Very limited Wetness	1.00	Very limited Flooding	1.00
3451A: Lawson, frequently flooded-----	Very limited Wetness	1.00	Very limited Flooding	1.00
4904A: Muskego, ponded-----	Very limited Wetness	1.00	Not limited	
Peotone, ponded-----	Very limited Wetness	1.00	Not limited	
M-W: Miscellaneous water	Not rated		Not rated	
W: Water-----	Not rated		Not rated	

Table 18.—Engineering Index Properties

(Absence of an entry indicates that data were not estimated. An asterisk indicates a representative value.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
23A: Blount-----	In				Pct	Pct				
	0-7	*Silt loam								
	7-13	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-3	95-100	95-100	90-100	90-100
	13-26	*Silty clay, silty clay loam, clay loam	*CL *CH, CL	*A-6, A-4 *A-7-6	0	0-3	95-100	95-100	90-100	90-100
	26-32	*Silty clay loam, clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-3	95-100	85-98	75-99	75-99
	32-60	*Silty clay loam, clay loam	*CL	*A-7-6, A-6	0-1	0-5	95-100	80-95	70-99	70-99
23B: Blount-----	0-6	*Silt loam								
	6-10	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-3	95-100	95-100	90-100	90-100
	10-23	*Silty clay, silty clay loam, clay loam	*CL *CH, CL	*A-6, A-4 *A-7-6	0	0-3	95-100	95-100	90-100	90-100
	23-34	*Silty clay loam, clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	95-100	80-95	70-99	70-99
	34-60	*Silty clay loam, clay loam	*CL	*A-7-6, A-6	0-1	0-5	90-100	80-93	70-99	70-99
49A: Watseka-----	0-10	*Loamy fine sand	*SC-SM, SC, SM	*A-2-4	0	0	100	95-100	80-99	80-99
	10-32	*Sand, fine sand, loamy fine sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	95-100	90-100	65-99	65-99
	32-60	*Fine sand, sand, loamy fine sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	90-100	90-100	65-99	65-99
54B: Plainfield-----	0-8	*Loamy sand	*SM	*A-2-4, A-2	0	0	85-100	80-100	51-99	51-99
	8-32	*Sand	*SP-SM, SM	*A-3, A-1-b, A-2-4	0	0	80-100	77-100	45-99	45-99
	32-60	*Sand, coarse sand	*SP-SM, SM	*A-1-b, A-3	0	0	80-100	77-100	45-99	45-99
67A: Harpster-----	0-18	*Silty clay loam	*MH, ML, CL	*A-7-5, A-7-6	0	0	100	97-100	95-100	95-100
	18-41	*Silty clay loam	*CL, CH	*A-7-6, A-6	0	0	100	97-100	95-100	95-100
	41-56	*Silt loam	*CL	*A-6, A-4	0	0	100	97-100	85-100	85-100
	56-60	*Loam, silt loam	*CL	*A-6, A-4	0	0	100	95-100	80-99	80-99

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
69A: Milford-----	0-9	*Silty clay loam	*MH, CH	*A-7-5, A-7-6	0	0	100	95-100	90-1
	9-22	*Silty clay	*CH, MH	*A-7-5, A-7-6	0	0	100	95-100	90-1
	22-50	*Silty clay loam, clay	*CH, CL	*A-7-6	0	0	100	95-100	90-1
	50-60	*Stratified sandy loam to silty clay loam	*CL	*A-6, A-7-6	0	0	95-100	95-100	90-1
91A: Swygert-----	0-12	*Silty clay loam	*CL, MH	*A-7-6, A-7-5	0	0	100	98-100	95-1
	12-26	*Silty clay, clay	*CH	*A-7-6	0	0	100	98-100	95-1
	26-51	*Silty clay, clay	*CH	*A-7-6	0	0-2	97-100	90-100	85-1
	51-60	*Silty clay, clay, silty clay loam	*CH, CL	*A-7-6	0	0-3	95-100	85-100	80-1
91B: Swygert-----	0-11	*Silty clay loam	*CL, MH	*A-7-6, A-7-5	0	0	100	98-100	95-1
	11-23	*Silty clay, clay	*CH	*A-7-6	0	0	100	98-100	95-1
	23-45	*Silty clay, clay	*CH	*A-7-6	0	0-2	97-100	90-100	85-1
	45-60	*Silty clay, clay, silty clay loam	*CH, CL	*A-7-6	0	0-3	95-100	85-100	80-1
103A: Houghton-----	0-11	*Muck	*PT	*A-8	0	0	---	---	---
	11-60	*Muck	*PT	*A-8	0	0	---	---	---
125A: Selma-----	0-6	*Loam	*ML, CL	*A-7-6, A-6, A-7-5	0	0	100	95-100	80-1
	6-13	*Clay loam	*CL, MH	*A-7-6, A-7-5	0	0	100	95-100	85-1
	13-44	*Loam, silty clay loam, sandy loam, clay loam	*CL, SC	*A-6, A-7-6	0	0	100	85-100	70-9
	44-80	*Stratified sand to silt loam	*SC, SC-SM, SP-SM, CL, CL-ML	*A-4, A-2-4, A-6, A-2-6	0	0	90-100	80-100	60-9
141A: Wesley-----	0-13	*Fine sandy loam	*SM, SC, SC-SM	*A-4, A-2-4	0	0	95-100	92-100	70-8
	13-38	*Fine sandy loam, fine sand, loamy very fine sand	*SC-SM, CL-ML, CL, SC	*A-4, A-2-4	0	0-3	95-100	92-100	65-9
	38-43	*Silty clay loam, loam, clay loam	*CL	*A-7-6, A-6	0	0-3	95-100	92-100	85-1
	43-60	*Silty clay loam, loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	95-100	92-100	85-1

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
146A: Elliott-----	In				Pct	Pct				
	0-6	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	0	100	97-100	95-100
	6-11	*Silty clay loam	*CL, CH, MH	*A-7-6	0	0	0	100	97-100	95-100
	11-16	*Silty clay	*CH	*A-7-6	0	0	0	100	95-100	90-100
	16-41	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	0	95-100	85-98	80-98
146B: Elliott-----	41-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	0	90-100	80-98	75-98
	0-9	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	0	100	97-100	95-100
	9-13	*Silty clay loam	*CL, CH	*A-7-6	0	0	0	100	97-100	95-100
	13-17	*Silty clay loam, silty clay	*CH, CL	*A-7-6	0	0	0	100	95-100	90-100
	17-40	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	0	95-100	85-98	80-98
152A: Drummer-----	40-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	0	90-100	80-98	75-98
	0-14	*Silty clay loam	*MH, CL, ML	*A-7-5, A-7-6	0	0	0	100	95-100	90-100
	14-42	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	0	100	95-100	90-100
	42-50	*Loam, clay loam, sandy loam, silt loam	*CL, SC	*A-6, A-4, A-7-6	0	0-5	0	95-100	90-100	75-98
	50-60	*Stratified loamy sand to silty clay loam	*SC, SC-SM, CL-ML, CL	*A-6, A-2-4, A-2-6, A-4	0	0-5	0	95-100	80-98	55-95
153A: Pella-----	0-12	*Silty clay loam	*MH, CL, ML	*A-7-5, A-7-6	0	0	0	100	95-100	90-100
	12-33	*Silty clay loam	*CL	*A-7-6, A-6	0	0	0	100	95-100	90-100
	33-42	*Silt loam, silty clay loam, clay loam, sandy loam, loam	*CL, SC	*A-6, A-4	0-1	0-5	0	95-100	85-100	70-95
	42-60	*Stratified loamy sand to silty clay loam	*SC, SC-SM, CL, CL-ML	*A-6, A-2-4, A-2-6, A-4	0-1	0-5	0	90-100	80-100	55-98
	0-17	*Fine sandy loam	*SC, SC-SM, CL, SM	*A-4, A-2-4, A-2-6, A-6	0	0	0	95-100	90-100	70-95
172A: Hoopeston-----	17-40	*Fine sandy loam, sandy loam, loamy sand, loam	*SC, SC-SM, CL, CL-ML	*A-4, A-2-4, A-2-6, A-6	0	0	0	95-100	90-100	65-95
	40-60	*Fine sand, loamy fine sand, loamy sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	0	95-100	85-100	60-95

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	inches	>10 Pct	3-10 Pct	4	10	40
189A: Martinton-----	In									
	0-12	*Silt loam	*ML, CL	*A-7-6, A-6	0	0	0	95-100	95-100	90-100
	12-39	*Silty clay loam, silty clay	*CH, CL	*A-7-6	0	0	0	95-100	95-100	90-100
	39-60	*Stratified sandy loam to silty clay	*CL, SC, CH	*A-6, A-4, A-7-6	0	0	0	95-100	90-100	75-100
192A: Del Rey-----	0-4	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0	0	96-100	96-100	90-100
	4-9	*Silt loam	*CL	*A-6, A-4	0	0	0	96-100	96-100	90-100
	9-33	*Silty clay, silty clay loam	*CH, CL	*A-7-6	0	0	0	96-100	96-100	90-100
	33-41	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0	0	0	96-100	96-100	90-100
	41-60	*Silty clay loam, silt loam	*CL	*A-6, A-7-6	0	0	0	96-100	96-100	90-100
201A: Gilford-----	0-22	*Fine sandy loam	*SM, SC, SC-SM, ML	*A-4, A-2-4, A-6	0	0	0	95-100	95-100	75-99
	22-41	*Fine sandy loam, sandy loam	*SC-SM, SC, CL-ML, CL	*A-4, A-2-4, A-6	0	0	0	95-100	95-100	70-99
	41-60	*Sand, fine sand, loamy sand	*SM, SP-SM	*A-2-4, A-3	0	0	0	95-100	85-100	60-99
206A: Thorp-----	0-11	*Silt loam	*ML, CL	*A-7-6, A-6, A-7-5	0	0	0	100	95-100	90-100
	11-15	*Silt loam	*CL	*A-6	0	0	0	100	95-100	90-100
	15-41	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	0	100	95-100	90-100
	41-49	*Loam, clay loam, sandy clay loam, silt loam	*CL, SC	*A-6	0	0	0	90-100	85-100	70-99
	49-60	*Stratified loamy sand to clay loam	*SC, SC-SM, CL, CL-ML	*A-6, A-2-4, A-2-6, A-4	0	0	0	85-100	80-95	55-99
223B: Varna-----	0-12	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-1	0-1	98-100	95-100	90-100
	12-30	*Silty clay, silty clay loam, clay	*CH, CL	*A-7-6	0-1	0-3	0-3	95-100	90-100	85-100
	30-48	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	0-5	95-100	85-100	80-100
	48-60	*Silty clay loam, clay loam	*CL	*A-7-6, A-6	0-1	0-5	0-5	90-100	85-100	80-100

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	inches	inches	4	10	40	
	In				Pct	Pct				
223C2: Varna, eroded----	0-9	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-1	98-100	95-100	90-100	
	9-29	*Silty clay loam, silty clay, clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-100	85-100	
	29-50	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	95-100	85-100	80-100	
	50-60	*Silty clay loam, clay loam	*CL	*A-7-6, A-6	0-1	0-5	90-100	85-100	80-100	
228A: Nappanee-----	0-5	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-1	95-100	95-100	90-100	
	5-8	*Silt loam	*CL	*A-6	0	0-1	95-100	95-100	90-100	
	8-26	*Silty clay, clay	*CH	*A-7-6	0	0-2	95-100	85-98	80-99	
	26-48	*Silty clay, clay	*CH, CL	*A-7-6	0	0-2	95-100	85-98	80-99	
	48-75	*Silty clay loam, silty clay, clay	*CL, CH	*A-7-6, A-6	0-1	0-3	95-100	85-97	80-99	
228B: Nappanee-----	0-4	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-1	95-100	95-100	90-100	
	4-9	*Silt loam	*CL	*A-6	0	0-1	95-100	95-100	90-100	
	9-23	*Silty clay, clay	*CH	*A-7-6	0	0-2	95-100	85-98	80-99	
	23-46	*Silty clay, clay	*CH, CL	*A-7-6	0	0-2	95-100	85-98	80-99	
	46-60	*Silty clay loam, silty clay, clay	*CL, CH	*A-7-6, A-6	0-1	0-3	95-100	85-97	80-99	
228C2: Nappanee, eroded	0-5	*Silty clay loam	*CL, CH	*A-7-6, A-6	0	0-1	95-100	95-100	90-100	
	5-8	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	95-100	90-100	
	8-23	*Silty clay, clay	*CH	*A-7-6	0	0-2	95-100	85-98	80-99	
	23-27	*Silty clay, clay	*CH, CL	*A-7-6	0	0-2	95-100	85-98	80-99	
	27-80	*Silty clay, silty clay loam, clay	*CH, CL	*A-7-6, A-6	0-1	0-3	95-100	85-97	80-99	
232A: Ashkum-----	0-12	*Silty clay loam	*MH, CH	*A-7-5, A-7-6	0	0	100	100	95-100	
	12-29	*Silty clay, silty clay loam	*CH, CL	*A-7-6	0	0	100	97-100	95-100	
	29-54	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-99	
	54-60	*Silty clay loam	*CL	*A-7-6, A-6	0	0-3	95-100	85-98	80-99	
235A: Bryce-----	0-13	*Silty clay	*MH, CH	*A-7-5	0	0	100	100	95-100	
	13-45	*Silty clay, clay	*CH	*A-7-6	0-1	0-2	95-100	95-100	90-100	
	45-58	*Silty clay, clay	*CH	*A-7-6	0-1	0-3	95-100	90-100	85-100	
	58-66	*Silty clay, silty clay loam, clay	*CH, CL	*A-7-6	0-1	0-5	95-100	85-100	80-100	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
241D3: Chatsworth, severely eroded										
	0-2	*Silty clay	*CH, MH, CL	*A-7-6	0	0	100	98-100	95-100	
	2-22	*Silty clay, clay, silty clay loam	*CH, CL	*A-7-6	0	0	100	95-100	95-100	
	22-60	*Silty clay, clay, silty clay loam	*CH, CL	*A-7-6	0	0	100	95-100	90-100	
241E3: Chatsworth, severely eroded										
	0-7	*Silty clay	*CH, MH, CL	*A-7-6	0	0	100	98-100	95-100	
	7-21	*Silty clay, clay, silty clay loam	*CH, CL	*A-7-6	0	0	100	95-100	95-100	
	21-60	*Silty clay, clay, silty clay loam	*CH, CL	*A-7-6	0	0	100	95-100	90-100	
290B: Warsaw-----										
	0-10	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0	95-100	90-100	85-100	
	10-24	*Clay loam, sandy clay loam, loam, silty clay loam	*CL, SC	*A-7-6, A-6	0	0-3	90-100	85-100	70-100	
	24-34	*Gravelly sandy clay loam, gravelly loam, gravelly clay loam, gravelly sandy loam	*SC, CL	*A-6, A-2-6, A-2-7, A-7-6	0-1	0-5	70-90	60-75	40-75	
	34-60	*Stratified gravelly loamy sand to extremely gravelly coarse sand	*SP-SM, GP, GP-GM, SP, SM	*A-1-a, A-1-b, A-3	0-3	1-5	30-80	15-75	7-55	
293A: Andres-----										
	0-11	*Silt loam	*ML, CL	*A-7-6, A-6	0	0	95-100	90-100	80-99	
	11-36	*Clay loam, sandy clay loam, loam, silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-100	75-99	
	36-50	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-100	80-100	
	50-60	*Silty clay loam, silt loam	*CL	*A-6, A-7-6	0	0-3	95-100	85-100	80-100	

Table 18.-Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
294B: Symerton										
	0-15	*Silt loam	*CL, ML	*A-6, A-7-6	0	0	95-100	90-100	80-100	
	15-19	*Silty clay loam	*CL, CH	*A-7-6, A-6	0	0	95-100	90-100	85-100	
	19-35	*Gravelly clay loam, loam, clay loam, gravelly loam	*CL, SC	*A-7-6, A-6	0	0-3	85-100	70-98	60-97	
	35-39	*Silt loam, silty clay loam	*CL	*A-6, A-7-6	0	0-1	95-100	90-100	85-100	
295A: Mokena	39-60	*Silt loam, silty clay loam	*CL	*A-6, A-7-6	0	0-1	95-100	90-100	85-100	
	0-5	*Silt loam	*ML, CL	*A-7-6, A-6	0	0	95-100	90-100	80-99	
	5-15	*Loam	*CL, ML	*A-6, A-7-6	0	0	95-100	90-100	80-99	
	15-38	*Clay loam, sandy clay loam, loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-100	75-99	
298A: Beecher	38-42	*Silty clay, clay	*CH	*A-7-6	0	0-2	95-100	90-100	85-100	
	42-60	*Silty clay, clay	*CH, CL	*A-7-6	0	0-5	90-100	85-100	80-100	
	0-9	*Silt loam	*CL, ML	*A-6, A-7-6	0	0	100	97-100	95-100	
	9-21	*Silty clay loam, silty clay	*CL, CH	*A-7-6	0	0	100	95-100	90-100	
298B: Beecher	21-37	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-97	
	37-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	95-100	85-98	80-97	
	0-7	*Silt loam	*CL, ML	*A-6, A-7-6	0	0	100	97-100	95-100	
	7-24	*Silty clay loam, silty clay	*CL, CH	*A-7-6	0	0	100	95-100	90-100	
318C2: Lorenzo, eroded	24-36	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-97	
	36-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	95-100	85-98	80-97	
	0-7	*Loam	*CL, ML	*A-6, A-7-6	0	0-5	95-100	90-100	75-98	
	7-16	*Clay loam, loam, gravelly sandy clay loam	*CL, SC	*A-7-6, A-2-6, A-2-7, A-6	0	2-10	85-100	50-95	35-90	
	16-60	*Stratified gravelly loamy sand to extremely gravelly coarse sand	*SP-SM, GP, GP-GM, SP, SM	*A-1-a, A-1-b	0	5-20	25-80	12-70	5-55	

Table 18.-Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
318D2: Lorenzo, eroded-	0-8	*Loam	*CL, ML	*A-6, A-7-6	0	0-5	95-100	90-100	75-98	
	8-18	*Clay loam, loam, gravelly sandy clay loam	*CL, SC	*A-7-6, A-2-6,	0	2-10	85-100	50-95	35-90	
	18-60	*Stratified gravelly loamy sand to extremely gravelly coarse sand	*SP-SM, GP, GP-GM, SP, SM	A-2-7, A-6 *A-1-a, A-1-b	0	5-20	25-80	12-70	5-55	
320A: Frankfort-----	0-9	*Silt loam	*CL, ML	*A-6, A-7-6	0	0	98-100	95-100	90-100	
	9-14	*Silty clay loam	*CL	*A-7-6, A-6	0	0	98-100	95-100	90-100	
	14-24	*Silty clay, clay	*CH	*A-7-6	0	0-2	95-100	90-100	85-100	
	24-34	*Silty clay, clay	*CH, CL	*A-7-6	0	0-2	95-100	90-100	85-100	
	34-60	*Silty clay loam, silty clay, clay	*CL, CH	*A-7-6	0-1	0-3	95-100	85-100	80-100	
320B: Frankfort-----	0-8	*Silt loam	*CL, ML	*A-6, A-7-6	0	0	98-100	95-100	90-100	
	8-12	*Silty clay loam	*CL	*A-7-6, A-6	0	0	98-100	95-100	90-100	
	12-32	*Silty clay, clay	*CH	*A-7-6	0	0-2	95-100	90-100	85-100	
	32-37	*Silty clay, clay	*CH, CL	*A-7-6	0	0-2	95-100	90-100	85-100	
	37-60	*Silty clay loam, silty clay, clay	*CL, CH	*A-7-6	0-1	0-3	95-100	85-100	80-100	
320C2: Frankfort, eroded-----	0-7	*Silty clay loam	*CL, CH	*A-7-6	0	0	98-100	95-100	90-100	
	7-28	*Silty clay, clay	*CH	*A-7-6	0	0-2	95-100	90-100	85-100	
	28-32	*Silty clay, clay	*CH, CL	*A-7-6	0	0-2	95-100	90-100	85-100	
	32-60	*Silty clay, silty clay loam, clay	*CH, CL	*A-7-6	0-1	0-3	95-100	85-100	80-100	
327A: Fox-----	0-6	*Silt loam	*CL, ML	*A-6, A-4	0	0	95-100	95-100	85-100	
	6-9	*Silt loam	*CL	*A-6, A-4	0	0	95-100	95-100	85-100	
	9-20	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-100	75-100	
	20-27	*Clay loam, sandy clay loam, gravelly loam	*CL, SC	*A-7-6, A-2-6, A-6, A-2-7	0-1	0-5	65-100	50-100	35-95	
	27-60	*Stratified gravelly sand to extremely gravelly coarse sand	*SP-SM, GP, GP-GM, SP	*A-1-b, A-1-a, A-3	0-3	0-10	40-90	15-75	5-60	

Table 18.-Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number		
			Unified	AASHTO	inches	inches	4	10	40
	In				Pct	Pct			
327B: Fox-----									
	0-4	*Silt loam	*CL, ML	*A-6, A-4	0	0	95-100	95-100	85-100
	4-7	*Silt loam	*CL	*A-6, A-4	0	0	95-100	95-100	85-100
	7-13	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-100	75-100
	13-28	*Clay loam, sandy clay loam, gravelly loam	*SC, CL	*A-7-6, A-2-6, A-2-7, A-6	0-1	0-5	65-100	50-100	35-95
327C2: Fox, eroded-----									
	0-4	*Silt loam	*CL, ML	*A-6, A-4	0	0	95-100	95-100	85-100
	4-12	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-100	75-100
	12-24	*Clay loam, sandy clay loam, gravelly loam	*SC, CL	*A-7-6, A-2-6, A-6, A-2-7	0-1	0-5	65-100	50-100	35-95
	24-60	*Stratified gravelly sand to extremely gravelly coarse sand	*SP-SM, GP, GP-GM, SP	*A-1-b, A-1-a, A-3	0-3	0-10	40-90	15-75	5-60
329A: Will-----									
	0-16	*Silty clay loam	*MH, CL, ML	*A-7-6, A-7-5	0	0	95-100	90-100	85-100
	16-24	*Loam, clay loam, silty clay loam, sandy clay loam	*CL, SC	*A-6, A-7-6	0-1	0-5	90-100	80-100	65-100
	24-60	*Stratified gravelly loamy sand to extremely gravelly coarse sand	*SP-SM, GP, GP-GM, SP, SC-SM	*A-1-a, A-1-b	0-2	1-10	40-85	15-70	7-55
330A: Peotone-----									
	0-13	*Silty clay loam	*MH	*A-7-5	0	0	100	95-100	90-100
	13-50	*Silty clay, silty clay loam	*CH, CL	*A-7-6	0	0-3	98-100	95-100	90-100
	50-60	*Silty clay loam, silt loam, silty clay	*CL, CH	*A-7-6, A-6	0	0-5	95-100	95-100	90-100

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
343A: Kane	0-11	*Silt loam	*ML, CL	*A-7-6, A-6	0	0	95-100	95-100	85-100	
	11-26	*Silty clay loam, clay loam, loam	*CL	*A-7-6, A-6	0	0	95-100	95-100	85-100	
	26-34	*Clay loam, sandy loam, loam	*CL, SC	*A-6, A-7-6, A-4	0-1	0-5	90-100	80-95	60-90	
	34-60	*Stratified gravelly loamy sand to extremely gravelly coarse sand	*SP-SM, SP, GP-GM, GP	*A-1-a, A-1-b	0-1	0-10	30-85	15-75	8-55	
361B: Kidder	0-9	*Loam	*CL, CL-ML, ML	*A-6, A-4	0	0	90-100	85-100	70-100	
	9-31	*Clay loam, sandy clay loam, loam	*CL, SC	*A-6, A-7-6, A-2-6	0	0-3	90-100	80-100	65-90	
	31-34	*Fine sandy loam, sandy loam, loam	*SC-SM, SC, CL, CL-ML	*A-4, A-2-4, A-2-6, A-6	0	0-5	90-98	80-95	60-90	
	34-60	*Sandy loam, gravelly sandy loam, fine sandy loam	*SC-SM, SC	*A-2-4, A-1-b, A-4	0	0-10	60-95	55-90	30-80	
361C2: Kidder, eroded	0-8	*Loam	*CL, CL-ML, ML	*A-6, A-4	0	0	90-100	85-100	70-100	
	8-30	*Clay loam, sandy clay loam, loam	*CL, SC	*A-6, A-2-6, A-7-6	0	0-3	90-100	80-100	65-90	
	30-41	*Sandy loam, loam, fine sandy loam	*SC-SM, SC, CL, CL-ML	*A-4, A-2-4, A-2-6, A-6	0	0-5	90-98	80-95	60-90	
	41-60	*Sandy loam, gravelly sandy loam, fine sandy loam	*SC-SM, SC	*A-2-4, A-1-b, A-4	0	0-10	60-95	55-90	30-80	
361D2: Kidder, eroded	0-7	*Loam	*CL, CL-ML, ML	*A-6, A-4	0	0	90-100	85-100	70-100	
	7-23	*Clay loam, sandy clay loam, loam	*CL, SC	*A-6, A-7-6, A-2-6	0	0-3	90-100	80-100	65-90	
	23-27	*Sandy loam, loam, fine sandy loam	*SC-SM, SC, CL, CL-ML	*A-4, A-2-4, A-2-6, A-6	0	0-5	90-98	80-95	60-90	
	27-60	*Sandy loam, gravelly sandy loam, fine sandy loam	*SC-SM, SC	*A-2-4, A-1-b, A-4	0	0-10	60-95	55-90	30-80	

Table 18.—Engineering Index Properties—Continued

[illegible]

Table 18.-Engineering Index Properties-Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
370B: Saylesville-----	0-9	*Silt loam	*CL, ML	*A-6, A-7-6	0	0	95-100	95-100	90-100	
	9-21	*Silty clay, silty clay loam	*CH, CL	*A-7-6	0	0	95-100	95-100	90-100	
	21-34	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0	0	95-100	95-100	90-100	
	34-60	*Silty clay loam, silt loam	*CL	*A-6, A-7-6	0	0	95-100	95-100	90-100	
392A. Urban land										
Orthents, loamy, nearly level-----	0-8	*Loam	*CL	*A-6, A-7-6	0	0-5	95-100	85-100	75-95	
	8-60	*Clay loam, silt loam, loam	*CL, SC	*A-6, A-7-6	0-1	0-5	95-100	80-100	70-95	
392B: Urban land.										
Orthents, loamy, gently sloping-----	0-7	*Loam	*CL	*A-6, A-7-6	0	0-5	95-100	85-100	75-95	
	7-60	*Clay loam, silt loam, loam	*CL, SC	*A-6, A-7-6	0-1	0-5	95-100	80-100	70-95	
442A: Mundelein-----	0-17	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	100	100	95-100	
	17-31	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	98-100	95-100	
	31-42	*Silt loam, sandy loam, clay loam, loam	*CL, SC	*A-6, A-4	0	0	95-100	85-100	65-95	
	42-60	*Stratified sandy loam to silt loam	*CL, CL-ML, SC-SM, SC	*A-4, A-2-4, A-2-6, A-6	0	0	90-100	80-100	60-95	
443B: Barrington-----	0-11	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	100	100	95-100	
	11-32	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	100	95-100	
	32-42	*Silt loam, sandy loam, clay loam, loam	*CL, SC	*A-6, A-4	0	0	100	90-100	75-95	
	42-60	*Stratified fine sand to silt loam	*CL, CL-ML, SC, SC-SM	*A-4, A-2-4, A-2-6, A-6	0	0	95-100	90-100	65-95	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
494B: Kankakee-----									
	0-11	*Fine sandy loam	*SC, SC-SM, SM	*A-4, A-2-4, A-6	0	0-10	95-100	95-100	80-98
	11-14	*Sandy clay loam, sandy loam, clay loam, loam	*CL, SC	*A-7-6, A-2-6, A-2-7, A-6	0-1	0-10	95-100	85-98	70-95
	14-21	*Very cobbly loam, cobbly sandy loam, cobbly loam	*SC, SC-SM, CL	*A-6, A-1-b, A-2-4, A-2-6, A-4	0-2	20-70	75-95	45-80	35-80
	21-60	*Very cobbly loam, extremely cobbly sandy loam, cobbly loam	*SC-SM, SC	*A-4, A-1-b, A-2-4, A-2-6, A-6	0-2	25-80	70-90	45-70	30-70
503B: Rockton-----									
	0-11	*Silt loam	*CL, ML	*A-6, A-7-6	0	0	100	95-100	85-100
	11-31	*Clay loam, loam, sandy clay loam	*CL	*A-7-6, A-6	0	0	95-100	90-100	75-99
	31-35	*Clay loam, clay, silty clay, silty clay loam	*CL, CH	*A-7-6	0	0-3	90-100	85-100	80-99
	35-60	Bedrock	---	---	---	---	---	---	---
522B: Orthents, clayey, refuse substratum, undulating-----									
	0-8	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100
	8-38	*Silty clay, clay, silty clay loam, clay loam	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100
	38-60	*Extremely artificial silty clay loam, very artificial clay, very artificial silty clay, extremely artificial clay loam	*CH, CL, SC	*A-7-6, A-7-5	25-80	25-80	60-90	50-85	45-85

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pas sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
522D: Orthents, clayey, refuse substratum, rolling-----	<u>In</u>				<u>Pct</u>	<u>Pct</u>			
	0-6	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100
	6-37	*Silty clay, clay, silty clay loam, clay loam	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100
	37-60	*Extremely artificial silty clay loam, very artificial clay, very artificial silty clay, extremely artificial clay loam	*CH, CL, SC	*A-7-6, A-7-5	25-80	25-80	60-90	50-85	45-85
522F: Orthents, clayey, refuse substratum, steep-----	0-6	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100
	6-34	*Silty clay, clay, silty clay loam, clay loam	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100
	34-60	*Extremely artificial silty clay loam, very artificial clay, very artificial silty clay, extremely artificial clay loam	*CH, CL, SC	*A-7-6, A-7-5	25-80	25-80	60-90	50-85	45-85
523A: Dunham-----	0-11	*Silty clay loam	*MH, ML, CL	*A-7-5, A-7-6	0	0	100	100	95-100
	11-31	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	98-100	90-100
	31-42	*Clay loam, silt loam, sandy loam, gravelly loam	*CL, CL-ML, SC, SC-SM	*A-6, A-2-4, A-2-6, A-4, A-7-6	0	0-5	90-100	70-100	51-97
	42-60	*Stratified gravelly sandy loam to extremely gravelly coarse sand	*SP-SM, SC-SM, GC-GM, SM, GP, GP-GM	*A-1-b, A-3, A-1-a	0-3	2-10	35-90	15-80	8-60

Table 18.-Engineering Index Properties-Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number		
			Unified	AASHTO	inches	inches	4	10	40
	In				Pct	Pct			
526A: Grundelein-----	0-13	*Silt loam	*ML, CL	*A-7-6, A-6	0	0	100	100	95-100
	13-29	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	100	98-100 90-100
	29-43	*Clay loam, sandy loam, silt loam, gravelly loam	*CL, CL-ML, SC, SC-SM	*A-6, A-2-4, A-2-6, A-4, A-7-6	0	0-5	90-100	70-100	151-99
	43-60	*Stratified gravelly sandy loam to extremely gravelly coarse sand	*SP-SM, SC-SM, SM, SP, GC-GM, GP-GM	*A-1-b, A-1-a, A-3	0-3	2-10	40-90	15-80	8-60
529A: Selmass-----	0-16	*Loam	*ML, CL	*A-7-6, A-6, A-7-5	0	0	100	98-100	80-99
	16-33	*Clay loam, loam	*CL	*A-7-6, A-6	0	0	100	95-100	75-99
	33-51	*Sandy loam, loam, loamy sand	*SC, SC-SM, CL, CL-ML	*A-4, A-6, A-2-4, A-2-6	0	0	95-100	85-100	155-99
	51-60	*Loamy sand, sand	*SM, SC-SM, SP-SM	*A-2-4, A-1-b, A-3	0	0-3	90-100	80-100	140-80
530B: Ozaukee-----	0-4	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0-1	98-100	98-100	90-100
	4-10	*Silt loam	*CL	*A-6, A-4	0	0-2	95-100	95-100	90-100
	10-21	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-99
	21-39	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-99
	39-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-99
530C: Ozaukee-----	0-5	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0-1	98-100	98-100	90-100
	5-10	*Silt loam	*CL	*A-6, A-4	0	0-2	95-100	95-100	90-100
	10-33	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-99
	33-38	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-99
	38-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-99

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
530C2: Ozaukee-----	0-6	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0-1	98-100	98-100	90-100	90-100
	6-21	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-95	85-95
	21-28	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-95	80-95
	28-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	75-95
530D: Ozaukee-----	0-4	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0-1	98-100	98-100	90-100	90-100
	4-9	*Silt loam	*CL	*A-6, A-4	0	0-2	95-100	95-100	90-100	90-100
	9-34	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-95	85-95
	34-39	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-95	80-95
	39-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	75-95
530D2: Ozaukee-----	0-6	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0-1	98-100	98-100	90-100	90-100
	6-20	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-95	85-95
	20-28	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-95	80-95
	28-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	75-95
530D3: Ozaukee-----	0-9	*Silty clay loam	*CL, CH	*A-7-6, A-6	0	0-1	90-98	88-98	80-98	80-98
	9-21	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-98	85-98
	21-25	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-98	80-98
	25-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	75-95

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	inches	inches	4	10	40	
	In				Pct	Pct				
530E: Ozaukee-----	0-4	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0-1	98-100	98-100	90-100	
	4-8	*Silt loam	*CL	*A-6, A-4	0	0-2	95-100	95-100	90-100	
	8-20	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-99	
	20-25	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-99	
	25-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-99	
530F: Ozaukee-----	0-5	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0-1	98-100	98-100	90-100	
	5-29	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-99	
	29-36	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-99	
	36-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-99	
531B: Markham-----	0-8	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-2	95-100	95-100	90-100	
	8-21	*Silty clay loam, silty clay	*CL, CH	*A-7-6	0-1	0-5	95-100	90-100	85-100	
	21-32	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-2	0-5	90-100	85-100	80-100	
	32-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-2	0-5	90-100	85-100	78-100	
531C2: Markham, eroded-	0-8	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-2	95-100	95-100	90-100	
	8-20	*Silty clay loam, silty clay	*CL, CH	*A-7-6	0-1	0-5	95-100	90-100	85-100	
	20-29	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-2	0-5	90-100	85-100	80-100	
	29-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-2	0-5	90-100	85-100	78-100	
531D2: Markham, eroded-	0-7	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-2	95-100	95-100	90-100	
	7-20	*Silty clay loam, silty clay	*CL, CH	*A-7-6	0-1	0-5	95-100	90-100	85-100	
	20-30	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-2	0-5	90-100	85-100	80-100	
	30-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-2	0-5	90-100	85-100	78-100	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
533. Urban land										
534A: Urban land.										
Orthents, clayey, nearly level-----										
	0-8	*Silty clay	*CH, MH	*A-7-6	0	0-3	98-100	90-100	85-100	
	8-60	*Silty clay, clay, silty clay loam	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-98	
534B: Urban land.										
Orthents, clayey, gently sloping-----										
	0-7	*Silty clay	*CH, MH	*A-7-6	0	0-3	98-100	90-100	85-100	
	7-60	*Silty clay, clay, silty clay loam	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-98	
535B: Orthents, undulating, stony-----										
	0-6	*Stony loam	*CL, ML, SC	*A-6, A-4	10-30	5-15	90-95	75-85	62-85	
	6-60	*Stony loam, stony sandy clay loam, stony clay loam	*CL, SC	*A-6, A-4	10-30	5-20	85-95	75-85	60-85	
541B: Graymont-----										
	0-12	*Silt loam	*ML, CL	*A-7-6, A-6	0	0	100	100	95-100	
	12-33	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	100	95-100	
	33-38	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0-3	95-100	85-99	80-98	
	38-60	*Silty clay loam, silt loam	*CL	*A-6, A-7-6	0	0-5	90-100	80-98	75-98	
560D2: St. Clair, eroded-----										
	0-5	*Silty clay loam	*CL, CH, MH	*A-7-6, A-6	0	0-1	95-100	95-100	90-100	
	5-8	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	95-100	90-100	
	8-22	*Silty clay, clay	*CH	*A-7-6	0	0-2	95-100	90-100	85-100	
	22-37	*Silty clay, clay	*CH, CL	*A-7-6	0	0-2	90-100	85-100	80-100	
	37-65	*Silty clay, silty clay loam, clay	*CH, CL	*A-7-6	0-1	0-3	90-100	80-98	75-97	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number		
			Unified	AASHTO	inches	Pct	>10	3-10	4 10 40
	In				Pct	Pct			
571A: Whitaker-----									
	0-10	*Loam	*CL, ML, CL-ML	*A-4, A-6	0	0		0	98-100 95-100 80-90
	10-47	*Clay loam, silty clay loam, sandy clay loam, loam	*CL	*A-7-6, A-6	0	0		0	98-100 95-100 80-90
	47-54	*Sandy loam, loam	*SC, SC-SM, CL, CL-ML	*A-4, A-6	0	0		0	95-100 90-100 65-90
	54-60	*Stratified loamy sand to silt loam	*SC-SM, SC, SM, CL-ML, CL	*A-4, A-2-6, A-6, A-2-4	0	0		0	90-100 80-100 55-90
614A: Chenoa-----									
	0-12	*Silty clay loam	*ML, CL, MH	*A-7-6, A-7-5	0	0		0	97-100 100
	12-32	*Silty clay loam, silty clay	*CH, CL	*A-7-6	0	0		0	100 97-100
	32-36	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0-1		95-100 85-98	80-90
	36-60	*Silty clay loam, silt loam	*CL	*A-6, A-7-6	0	0-3		95-100 85-98	80-90
696A: Zurich-----									
	0-5	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0		0	100 95-100
	5-10	*Silt loam	*CL	*A-6, A-4	0	0		0	100 95-100
	10-29	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0		0	100 98-100 90-100
	29-36	*Silt loam, sandy loam, loam	*CL, SC	*A-6, A-4	0	0		95-100 90-100 70-90	
696B: Zurich-----									
	36-60	*Stratified loamy sand to silt loam	*CL, SC, SC-SM	*A-6, A-2-4, A-4, A-2-6	0-1	0-5		90-100 80-100 55-90	
	0-5	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0		0	100 95-100
	5-9	*Silt loam	*CL	*A-6, A-4	0	0		0	100 95-100
	9-28	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0		0	100 98-100 90-100
696B: Zurich-----									
	28-38	*Loam, silt loam, sandy loam	*CL, SC, CL-ML, SC-SM	*A-6, A-4	0	0		95-100 90-100 70-90	
	38-64	*Stratified loamy sand to silt loam	*CL, CL-ML, SC, SC-SM	*A-6, A-2-4, A-2-6, A-4	0-1	0-5		90-100 80-100 55-90	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers		
			Unified	AASHTO	inches	inches	4	10	40
	In				Pct	Pct			
					>10	3-10			
696C2: Zurich, eroded--									
	0-10	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0	100	100	95-10
	10-27	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	98-100	90-10
	27-40	*Silt loam, sandy loam, loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4	0	0	95-100	90-100	70-9
	40-60	*Stratified loamy sand to silt loam	*CL, CL-ML, SC, SC-SM	*A-6, A-2-4, A-2-6, A-4	0-1	0-5	90-100	80-100	55-9
696D2: Zurich, eroded--									
	0-6	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0	100	100	95-10
	6-25	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	98-100	90-10
	25-35	*Silt loam, sandy loam, loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4	0	0	95-100	90-100	70-9
	35-60	*Stratified loamy sand to silt loam	*CL, CL-ML, SC, SC-SM	*A-6, A-2-4, A-2-6, A-4	0-1	0-5	90-100	80-100	55-9
697A: Wauconda-----									
	0-9	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0	100	100	95-10
	9-14	*Silt loam	*CL	*A-6, A-4	0	0	100	100	95-10
	14-30	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	98-100	90-10
	30-38	*Loam, silt loam, sandy loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4	0	0	95-100	90-100	70-9
698B: Grays-----									
	0-8	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0	100	98-100	95-10
	8-11	*Silt loam	*CL	*A-6, A-4	0	0	100	98-100	95-10
	11-34	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	98-100	90-10
	34-42	*Loam, silt loam, sandy loam	*CL, CL-ML, SC, SC-SM	*A-6, A-4	0	0	95-100	90-100	70-9
698B: Grays-----									
	42-60	*Stratified loamy sand to silt loam	*CL, CL-ML, SC, SC-SM	*A-4, A-6, A-2-4, A-2-6	0-1	0-5	90-100	80-100	55-9

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers		
			Unified	AASHTO	inches	inches	4	10	40
	In				Pct	Pct			
740A: Darroch-----	0-15	*Silt loam	*CL, ML	*A-6, A-7-6, A-4	0	0	100	95-100	85-100
	15-21	*Silty clay loam, silt loam, clay loam, loam	*CL	*A-7-6, A-6	0	0	95-100	90-100	75-100
	21-29	*Loam, clay loam, sandy clay loam, fine sandy loam	*CL, SC	*A-6, A-7-6	0	0	95-100	90-100	70-100
	29-60	*Stratified sandy loam to silt loam	*CL, CL-ML, SC, SC-SM	*A-4, A-2-6, A-2-4, A-6	0	0	90-100	80-100	65-99
741B: Oakville-----	0-7	*Fine sand	*SM, SP-SM, SC-SM	*A-2-4, A-3	0	0	100	95-100	80-99
	7-40	*Fine sand, loamy fine sand	*SM, SP-SM, SC-SM	*A-2-4, A-3	0	0	100	95-100	80-99
	40-60	*Fine sand, loamy sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	100	95-100	80-99
741D: Oakville-----	0-6	*Fine sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	100	95-100	80-99
	6-30	*Fine sand, loamy fine sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	100	95-100	80-99
	30-60	*Fine sand, loamy sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	100	95-100	80-99
800A: Psammets, nearly level----	0-10	*Loam	*CL	*A-6, A-7-6	0	0-2	95-100	85-100	75-99
	10-38	*Sand, loamy sand	*SP-SM, SP, SM, SC-SM	*A-3, A-2-4	0	0-2	90-100	85-100	51-99
	38-60	*Sand, loamy sand	*SP-SM, SP, SM	*A-3, A-2-4, A-1-b	0	0-2	80-100	77-100	45-99
802A: Orthents, loamy, nearly level-----	0-8	*Loam	*CL	*A-6, A-7-6	0	0-5	95-100	85-100	75-99
	8-60	*Clay loam, silt loam, loam	*CL, SC	*A-6, A-7-6	0-1	0-5	95-100	80-100	70-99

Table 18.—Engineering Index Properties—Continued

[illegible]

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	inches	inches	4	10	40	
807B: Orthents, loamy-skeletal, undulating-----	In				Pct	Pct				
						>10	3-10			
	0-6	*Very artificial loam	*SC			10-25	20-35	65-80	45-65	40-65
	6-60	*Extremely artificial clay loam, very artificial silt loam, extremely artificial loam	*SC, CL			15-40	25-65	65-80	45-65	40-65
811A: Alflic Udarents, clayey-----	0-9	*Silty clay loam	*CH, CL, MH			0	0-3	98-100	90-100	85-100
	9-37	*Silty clay loam, silty clay, clay	*CH, CL			0	0-3	98-100	85-100	80-100
	37-42	*Silty clay	*CH			0	0	100	95-100	90-100
	42-56	*Silty clay loam	*CL			0	0-1	95-100	85-98	80-99
	56-60	*Silty clay loam	*CL			0	0-3	90-100	80-98	75-99
811B: Alflic Udarents, clayey-----	0-7	*Silty clay loam	*CH, CL, MH							
	7-35	*Silty clay loam, silty clay, clay	*CH, CL			0	0-3	98-100	90-100	85-100
	35-39	*Silty clay loam, silty clay	*CH, CL			0	0	100	95-100	90-100
	39-54	*Silty clay loam	*CL			0	0-1	95-100	85-98	80-99
	54-60	*Silty clay loam	*CL			0	0-3	90-100	80-98	75-99
811D: Alflic Udarents, clayey-----	0-6	*Silty clay loam	*CH, CL, MH							
	6-33	*Silty clay loam, silty clay, clay	*CH, CL			0	0-3	98-100	90-100	85-100
	33-41	*Silty clay, silty clay loam, clay	*CH, CL			0-1	0-3	95-100	90-100	85-100
	41-51	*Silty clay loam, silty clay	*CL, CH			0-1	0-5	95-100	85-100	80-100
	51-60	*Silty clay loam, clay loam	*CL			0-1	0-5	90-100	85-100	80-100

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
822A: Alflic Udarents, clayey-----	In				Pct	Pct				
	0-9	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100	
	9-37	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100	
	37-42	*Silty clay	*CH	*A-7-6	0	0	100	95-100	90-100	
	42-56	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-99	
	56-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-99	
	0-6	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	100	97-100	95-100	
Elliott-----	6-11	*Silty clay loam	*CL, CH, MH	*A-7-6	0	0	100	97-100	95-100	
	11-16	*Silty clay	*CH	*A-7-6	0	0	100	95-100	90-100	
	16-41	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-99	
	41-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-99	
822B: Alflic Udarents, clayey-----	0-7	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100	
	7-35	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100	
	35-39	*Silty clay loam, silty clay	*CH, CL	*A-7-6	0	0	100	95-100	90-100	
	39-54	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-99	
	54-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-99	
Elliott-----	0-9	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	100	97-100	95-100	
	9-13	*Silty clay loam	*CL, CH	*A-7-6	0	0	100	97-100	95-100	
	13-17	*Silty clay loam, silty clay	*CH, CL	*A-7-6	0	0	100	95-100	90-100	
	17-40	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-99	
	40-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-99	
830. Landfills										
848B: Drummer-----	0-14	*Silty clay loam	*MH, CL, ML	*A-7-5, A-7-6	0	0	100	95-100	90-100	
	14-42	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	95-100	90-100	
	42-50	*Loam, clay loam, sandy loam, silt loam	*CL, SC	*A-6, A-4, A-7-6	0	0-5	95-100	90-100	75-99	
	50-60	*Stratified loamy sand to silty clay loam	*SC, SC-SM, CL-ML, CL	*A-6, A-2-4, A-2-6, A-4	0	0-5	95-100	80-98	55-99	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
848B: Barrington-----	In				Pct	Pct				
	0-11	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	100	100	100	90-10
	11-32	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	100	100	90-10
	32-42	*Silt loam, sandy loam, clay loam, loam	*CL, SC	*A-6, A-4, A-2-6	0	0	100	90-100	170-99	
Mundelein-----	42-60	*Stratified fine sand to silt loam	*CL, CL-ML, SC, SC-SM	*A-4, A-2-4, A-2-6, A-6	0	0	95-100	90-100	160-99	
	0-17	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	100	100	100	95-10
	17-31	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	98-100	95-10	
	31-42	*Silt loam, sandy loam, clay loam, loam	*CL, SC	*A-6, A-4	0	0	95-100	85-100	160-99	
	42-60	*Stratified sandy loam to silt loam	*CL, CL-ML, SC-SM, SC	*A-4, A-2-4, A-2-6, A-6	0	0	90-100	80-100	150-99	
849A: Milford-----										
	0-9	*Silty clay loam	*MH, CH	*A-7-5, A-7-6	0	0	100	95-100	90-10	
	9-22	*Silty clay	*CH, MH	*A-7-5, A-7-6	0	0	100	95-100	90-10	
	22-50	*Silty clay loam, clay loam, silty clay	*CH, CL	*A-7-6	0	0	100	95-100	90-10	
	50-60	*Stratified sandy loam to silty clay loam	*CL	*A-6, A-7-6	0	0	95-100	95-100	90-10	
Martinton-----										
	0-12	*Silt loam	*ML, CL	*A-7-6, A-6	0	0	95-100	95-100	90-10	
	12-39	*Silty clay loam, silty clay	*CH, CL	*A-7-6	0	0	95-100	95-100	90-10	
	39-60	*Stratified sandy loam to silty clay	*CL, SC, CH	*A-6, A-4, A-7-6	0	0	95-100	90-100	75-10	
854B: Markham-----										
	0-8	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-2	95-100	95-100	90-10	
	8-21	*Silty clay loam, silty clay	*CL, CH	*A-7-6	0-1	0-5	95-100	90-100	185-10	
	21-32	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-2	0-5	90-100	85-100	180-10	
	32-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-2	0-5	90-100	85-100	178-10	
Ashkum-----										
	0-12	*Silty clay loam	*MH, CH	*A-7-5, A-7-6	0	0	100	100	95-10	
	12-29	*Silty clay, silty clay loam	*CH, CL	*A-7-6	0	0	100	97-100	95-10	
	29-54	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	180-99	
	54-60	*Silty clay loam	*CL	*A-7-6, A-6	0	0-3	95-100	85-98	180-99	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
854B: Beecher-----	0-7 7-24	*Silt loam *Silty clay loam, silty clay	*CL, ML *CL, CH	*A-6, A-7-6 *A-7-6	0 0	0 0	100 100	97-100 95-100	95-100 90-100	
	24-36 36-60	*Silty clay loam *Silty clay loam	*CL *CL	*A-7-6, A-6 *A-6, A-7-6	0 0	0-1 0-3	95-100 95-100	85-98 85-98	80-99 80-99	
862. Pits, sand										
863. Pits, clay										
864. Pits, quarry										
865. Pits, gravel										
903A: Muskego-----	0-5 5-36 36-80	*Muck *Muck *Coprogenous silt loam, coprogenous silty clay loam, coprogenous earth	*PT *PT *OH, MH, OL	*A-8 *A-8 *A-7-5	0 0 0	0 0 0	--- --- 95-100	--- --- 95-100	--- --- 85-100	--- --- 85-100
Houghton-----	0-19 19-60	*Muck *Muck	*PT *PT	*A-8 *A-8	0 0	0 0	--- ---	--- ---	--- ---	--- ---
925B: Frankfort-----	0-8 8-12 12-32 32-37 37-60	*Silt loam *Silty clay loam *Silty clay, clay *Silty clay, clay *Silty clay loam, silty clay, clay	*CL, ML *CL *CH *CH, CL *CL, CH	*A-6, A-7-6 *A-7-6, A-6 *A-7-6 *A-7-6 *A-7-6	0 0 0 0 0-1	0 0 0-2 0-3	98-100 98-100 95-100 95-100 95-100	95-100 95-100 90-100 90-100 85-100	90-100 90-100 85-100 85-100 80-100	
Bryce-----	0-13 13-45 45-58 58-66	*Silty clay *Silty clay, clay *Silty clay, clay *Silty clay, silty clay loam, clay	*MH, CH *CH *CH *CH, CL	*A-7-5 *A-7-6 *A-7-6 *A-7-6	0 0-1 0-1 0-1	0 0-2 0-3 0-5	100 95-100 95-100 95-100	100 95-100 90-100 85-100	95-100 90-100 85-100 80-100	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers		
			Unified	AASHTO	inches	inches	4	10	40
	In				Pct	Pct			
969E2: Casco, eroded---	0-5	*Loam	*CL, ML	*A-6, A-4	0	0-5	90-100	85-100	67-99
	5-19	*Gravelly clay loam, sandy clay loam, gravelly loam	*CL, SC	*A-6, A-2-6, A-2-7, A-7-6	0-1	0-5	65-100	50-100	38-99
	19-60	*Stratified sand to extremely gravelly coarse sand	*SP-SM, GP, GP-GM, SP	*A-1-b, A-1-a, A-3, A-2-4	0-3	0-30	25-100	15-85	10-66
	0-6	*Gravelly loam	*SC, CL-ML, ML, CL, SC-SM	*A-6, A-4	0	0-2	75-90	65-75	55-75
	6-10	*Gravelly loam, sandy loam, loam	*SC, SC-SM, CL-ML, CL	*A-4, A-1-b, A-2-4, A-2-6, A-6	0	0-3	70-95	50-80	35-75
	10-60	*Stratified very gravelly loamy sand to extremely gravelly coarse sand	*GP-GM, GP, GC-GM, SP, SP-SM	*A-1-a	0-1	1-5	30-70	15-50	7-33
969F: Casco-----	0-4	*Loam	*CL, CL-ML, ML	*A-6, A-4	0	0-5	90-100	85-100	70-99
	4-15	*Gravelly clay loam, sandy clay loam, gravelly loam	*CL, SC	*A-6, A-2-6, A-2-7, A-7-6	0-1	0-5	65-100	50-100	40-99
	15-60	*Stratified sand to extremely gravelly coarse sand	*SP-SM, GP, GP-GM, SP	*A-1-b, A-1-a, A-3, A-2-4	0-3	0-30	25-100	15-85	10-66
	0-11	*Gravelly loam	*SC, CL-ML, ML, CL, SC-SM	*A-6, A-4, A-7-6	0	0-2	75-95	65-75	55-75
Rodman-----	11-14	*Gravelly loam, sandy loam, loam	*SC, SC-SM, CL-ML, CL	*A-4, A-1-b, A-2-4, A-2-6, A-6	0	0-3	70-90	50-80	35-75
	14-60	*Stratified very gravelly loamy sand to extremely gravelly coarse sand	*GP-GM, GP, GC-GM, SP, SP-SM	*A-1-a	0-1	1-5	30-70	15-50	7-33

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
973A:									
Hoopeston-----	0-17	*Fine sandy loam	*SC, SC-SM, CL, SM	*A-4, A-2-4, A-2-6, A-6	0	0	95-100	90-100	70-97
	17-40	*Fine sandy loam, sandy loam, loamy sand, loam	*SC, SC-SM, CL, CL-ML	*A-4, A-2-4, A-2-6, A-6	0	0	95-100	90-100	65-97
	40-60	*Fine sand, loamy fine sand, loamy sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	95-100	85-100	60-95
Selma-----	0-6	*Loam	*ML, CL	*A-7-6, A-6, A-7-5	0	0	100	95-100	80-100
	6-13	*Clay loam	*CL, MH	*A-7-6, A-7-5	0	0	100	95-100	85-100
	13-44	*Loam, silty clay loam, sandy loam, clay loam	*CL, SC	*A-6, A-7-6	0	0	100	85-100	70-95
	44-80	*Stratified sand to silt loam	*SC, SC-SM, SP-SM, CL, CL-ML	*A-4, A-2-4, A-6, A-2-6	0	0	90-100	80-100	60-95
1103A:									
Houghton, undrained-----	0-7	*Muck	*PT	*A-8	0	0	---	---	---
	7-60	*Muck	*PT	*A-8	0	0	---	---	---
1107A:									
Sawmill, undrained, frequently flooded-----	0-28	*Silty clay loam	*MH, CL, ML	*A-7-5, A-7-6	0	0	100	97-100	95-100
	28-42	*Silty clay loam	*CL, CH	*A-7-6, A-6	0	0	100	97-100	90-100
	42-60	*Silty clay loam, clay loam, silt loam	*CL	*A-7-6, A-6	0	0	100	90-100	85-100
1330A:									
Peotone, undrained-----	0-25	*Silty clay loam	*MH	*A-7-5	0	0	100	95-100	90-100
	25-53	*Silty clay, silty clay loam	*CH, CL	*A-7-6	0	0-3	98-100	95-100	90-100
	53-60	*Silty clay loam, silt loam, silty clay	*CL, CH	*A-7-6, A-6	0	0-5	95-100	95-100	87-100
1409A:									
Aquents, clayey, undrained-----	0-6	*Silt loam	*CL, ML	*A-7-6, A-6	0	0-3	98-100	90-100	85-100
	6-60	*Silty clay loam, silty clay, clay, clay loam	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100

Table 18.-Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pas- sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
1516A: Faxon, undrained, frequently flooded-----	In				Pct	Pct				
1903A: Muskego, undrained-----	0-20	*Silty clay loam	*MH, CL, ML	*A-7-5, A-7-6	0	0-5	90-100	85-100	75-10	
	20-30	*Silty clay loam, silt loam	*CL	*A-7-6, A-6	0	0-10	90-100	80-100	80-10	
	30-60	Bedrock	---	---	---	---	---	---	---	
Houghton, undrained-----	0-5	*Muck	*PT	*A-8	0	0	---	---	---	
	5-27	*Muck	*PT	*A-8	0	0	---	---	---	
	27-60	*Coprogenous silt loam, coprogenous silty clay loam, coprogenous earth	*OH, MH, OL	*A-7-5	0	0	95-100	95-100	85-10	
2023B: Alfic Udarents, clayey-----	0-19	*Muck	*PT	*A-8	0	0	---	---	---	
	19-60	*Muck	*PT	*A-8	0	0	---	---	---	
Urban land.	0-7	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-10	
	7-35	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-98	
	35-46	*Silty clay, silty clay loam, clay loam	*CH, CL	*A-7-6	0-1	0-3	95-100	85-98	75-97	
	46-55	*Silty clay loam, clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	95-100	80-95	70-93	
	55-60	*Silty clay loam, clay loam	*CL	*A-7-6, A-6	0-1	0-5	90-100	80-93	70-92	
Blount-----	0-6	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-3	95-100	95-100	90-10	
	6-10	*Silt loam	*CL	*A-6, A-4	0	0-3	95-100	95-100	90-10	
	10-23	*Silty clay, silty clay loam, clay loam	*CH, CL	*A-7-6	0-1	0-3	95-100	85-98	75-97	
	23-34	*Silty clay loam, clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	95-100	80-95	70-93	
	34-60	*Silty clay loam, clay loam	*CL	*A-7-6, A-6	0-1	0-5	90-100	80-93	70-92	

Table 18.-Engineering Index Properties-Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
2049A: Orthents, loamy	0-8	*Loam	*CL	*A-6, A-7-6	0	0-5	95-100	85-100	75-98	
	8-52	*Clay loam, silt loam, loam	*CL, SC	*A-6, A-7-6	0-1	0-5	95-100	80-100	70-98	
	52-60	*Sand, fine sand, loamy fine sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	95-100	90-100	65-97	
Urban land.										
Watseka-----	0-10	*Loamy fine sand	*SC-SM, SC, SM	*A-2-4	0	0	100	95-100	80-95	
	10-32	*Sand, fine sand, loamy fine sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	95-100	90-100	65-95	
	32-60	*Fine sand, sand, loamy fine sand	*SM, SC-SM, SP-SM	*A-2-4, A-3	0	0	90-100	90-100	65-95	
2223B: Alfic Udarents, clayey-----	0-7	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-10	
	7-35	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-10	
	35-45	*Silty clay, silty clay loam, clay	*CH, CL	*A-7-6	0-1	0-3	95-100	90-100	85-10	
	45-56	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	95-100	85-100	80-10	
	56-60	*Silty clay loam, clay loam	*CL	*A-7-6, A-6	0-1	0-5	90-100	85-100	80-10	
Urban land.										
Varna-----	0-12	*Silt loam	*CL, ML	*A-6, A-7-6	0	0-1	98-100	95-100	90-10	
	12-30	*Silty clay, silty clay loam, clay	*CH, CL	*A-7-6	0-1	0-3	95-100	90-100	85-10	
	30-48	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	95-100	85-100	80-10	
	48-60	*Silty clay loam, clay loam	*CL	*A-7-6, A-6	0-1	0-5	90-100	85-100	80-10	
2232A: Orthents, clayey	0-8	*Silty clay	*CH, MH	*A-7-6	0	0-3	98-100	90-100	85-10	
	8-42	*Silty clay, clay, silty clay loam	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-98	
	42-52	*Silty clay, silty clay loam	*CH, CL	*A-7-6	0	0	100	97-100	95-10	
	52-60	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-95	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	inches	inches	4	10	40	
	In				Pct	Pct				
2232A: Urban land.										
Ashkum-----	0-12	*Silty clay loam	*MH, CH	*A-7-5, A-7-6	0	0	100	100	95-100	95-100
	12-29	*Silty clay, silty clay loam	*CH, CL	*A-7-6	0	0	100	100	97-100	95-100
	29-54	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-99	80-99
	54-60	*Silty clay loam	*CL	*A-7-6, A-6	0	0-3	95-100	85-98	80-99	80-99
2530B: Alfic Udarents, clayey-----	0-7	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100	85-100
	7-35	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100	80-100
	35-42	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-99	85-99
	42-55	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-99	80-99
	55-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-99	75-99
Urban land.										
Ozaukee-----	0-4	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0-1	98-100	98-100	90-100	90-100
	4-10	*Silt loam	*CL	*A-6, A-4	0	0-2	95-100	95-100	90-100	90-100
	10-21	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-99	85-99
	21-39	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-99	80-99
	39-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-99	75-99
2530D: Alfic Udarents, clayey-----	0-6	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100	85-100
	6-35	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100	80-100
	35-42	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-99	85-99
	42-55	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-99	80-99
	55-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-99	75-99
Urban land.										

Table 18.-Engineering Index Properties-Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	<u>In</u>				<u>Pct</u>	<u>Pct</u>				
2530D: Ozaukee-----	0-4	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0-1	98-100	98-100	90-100	
	4-9	*Silt loam	*CL	*A-6, A-4	0	0-2	95-100	95-100	90-100	
	9-34	*Silty clay loam, clay, silty clay	*CL, CH	*A-7-6	0-1	0-3	95-100	90-98	85-95	
	34-39	*Silty clay loam, silty clay	*CL, CH	*A-7-6, A-6	0-1	0-5	90-98	85-98	80-95	
	39-60	*Silty clay loam, clay loam	*CL	*A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	
2571A: Orthents, loamy	0-8	*Loam	*CL	*A-6, A-7-6	0	0-5	95-100	85-100	75-95	
	8-42	*Clay loam, silt loam, loam	*CL, SC	*A-6, A-7-6	0-1	0-5	95-100	80-100	70-95	
	42-53	*Clay loam, silty clay loam, sandy clay loam, loam	*CL	*A-7-6, A-6	0	0	98-100	95-100	80-98	
	53-60	*Sandy loam, loam	*SC, SC-SM, CL, CL-ML	*A-4, A-6	0	0	95-100	90-100	65-97	
Urban land.	0-10	*Loam	*CL, ML, CL-ML	*A-4, A-6	0	0	98-100	95-100	80-98	
	10-47	*Clay loam, silty clay loam, sandy clay loam, loam	*CL	*A-7-6, A-6	0	0	98-100	95-100	80-98	
	47-54	*Sandy loam, loam	*SC, SC-SM, CL, CL-ML	*A-4, A-6	0	0	95-100	90-100	65-97	
	54-60	*Stratified loamy sand to silt loam	*SC-SM, SC, SM, CL-ML, CL	*A-4, A-2-6, A-6, A-2-4	0	0	90-100	80-100	55-97	
2740A: Orthents, loamy	0-8	*Loam	*CL	*A-6, A-7-6	0	0-5	95-100	85-100	75-98	
	8-42	*Clay loam, silt loam, loam	*CL, SC	*A-6, A-7-6	0-1	0-5	95-100	80-100	70-97	
	42-50	*Loam, clay loam, sandy clay loam, fine sandy loam	*CL, SC	*A-6, A-7-6	0	0	95-100	90-100	75-99	
	50-60	*Sandy loam, loam	*SC, SC-SM, CL, CL-ML	*A-4, A-6	0	0	95-100	90-100	70-95	
Urban land.										

Table 18.-Engineering Index Properties-Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200
	In				Pct	Pct				
2740A: Darroch-----	0-15	*Silt loam	*CL, ML	*A-6, A-7-6, A-4	0	0	100	95-100	85-100	
	15-21	*Silty clay loam, silt loam, clay loam, loam	*CL	*A-7-6, A-6	0	0	95-100	90-100	75-100	
	21-29	*Loam, clay loam, sandy clay loam, fine sandy loam	*CL, SC	*A-6, A-7-6	0	0	95-100	90-100	70-100	
	29-60	*Stratified sandy loam to silt loam	*CL, CL-ML, SC, SC-SM	*A-4, A-2-6, A-2-4, A-6	0	0	90-100	80-100	65-99	
2800A: Urban land.										
Psamments, nearly level----	0-10	*Loam	*CL	*A-6, A-7-6	0	0-2	95-100	85-100	75-98	
	10-38	*Sand, loamy sand	*SP-SM, SP, SM, SC-SM	*A-3, A-2-4	0	0-2	90-100	85-100	51-90	
	38-60	*Sand, loamy sand	*SP-SM, SP, SM	*A-3, A-2-4, A-1-b	0	0-2	80-100	77-100	45-90	
2800B: Urban land.										
Psamments, gently sloping	0-7	*Loam	*CL	*A-6, A-7-6	0	0-2	95-100	85-100	75-98	
	7-35	*Sand, loamy sand	*SP-SM, SP, SM, SC-SM	*A-3, A-2-4	0	0-2	90-100	85-100	51-90	
	35-60	*Sand, loamy sand	*SP-SM, SP, SM	*A-3, A-2-4, A-1-b	0	0-2	80-100	77-100	45-90	
2811A: Urban land.										
Alfic Udarents, clayey-----	0-9	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100	
	9-37	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100	
	37-42	*Silty clay	*CH	*A-7-6	0	0	100	95-100	90-100	
	42-56	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-98	
	56-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-98	
2811B: Urban land.										

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number			
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	
	In				Pct	Pct				
2811B: Alflic Udarents, clayey-----										
	0-7	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100	
	7-35	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100	
	35-39	*Silty clay loam, silty clay	*CH, CL	*A-7-6	0	0	100	95-100	90-100	
	39-54	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-98	
2822A: Alflic Udarents, clayey-----	54-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-98	
	0-9	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100	
	9-37	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100	
	37-42	*Silty clay	*CH	*A-7-6	0	0	100	95-100	90-100	
Urban land.	42-56	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-98	
	56-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-98	
Elliott-----	0-6	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	100	97-100	95-100	
	6-11	*Silty clay loam	*CL, CH, MH	*A-7-6	0	0	100	97-100	95-100	
	11-16	*Silty clay	*CH	*A-7-6	0	0	100	95-100	90-100	
	16-41	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-98	
	41-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-98	
2822B: Alflic Udarents, clayey-----										
	0-7	*Silty clay loam	*CH, CL, MH	*A-7-6	0	0-3	98-100	90-100	85-100	
	7-35	*Silty clay loam, silty clay, clay	*CH, CL	*A-7-6	0	0-3	98-100	85-100	80-100	
	35-39	*Silty clay loam, silty clay	*CH, CL	*A-7-6	0	0	100	95-100	90-100	
	39-54	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-98	
	54-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-98	
Urban land.										
Elliott-----	0-9	*Silt loam	*CL, ML	*A-7-6, A-6	0	0	100	97-100	95-100	
	9-13	*Silty clay loam	*CL, CH	*A-7-6	0	0	100	97-100	95-100	
	13-17	*Silty clay loam, silty clay	*CH, CL	*A-7-6	0	0	100	95-100	90-100	
	17-40	*Silty clay loam	*CL	*A-7-6, A-6	0	0-1	95-100	85-98	80-98	
	40-60	*Silty clay loam	*CL	*A-6, A-7-6	0	0-3	90-100	80-98	75-98	

Table 18.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve numbers			
			Unified	AASHTO	inches	inches	4	10	40	
	In				Pct	Pct				
3107A: Sawmill, frequently flooded-----										
	0-29	*Silty clay loam	*MH, CL, ML	*A-7-5, A-7-6	0	0	100	97-100	95-100	
	29-48	*Silty clay loam	*CL, CH	*A-7-6, A-6	0	0	100	97-100	90-100	
	48-60	*Silt loam, silty clay loam, clay loam	*CL	*A-6, A-7-6	0	0	100	90-100	85-100	
3316A: Romeo-----	0-10	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0-1	0-10	90-100	80-100	70-90	
	10-60	Bedrock	---	---	---	---	---	---	---	
3451A: Lawson, frequently flooded-----										
	0-14	*Silt loam	*CL, ML	*A-6, A-4, A-7-6	0	0	100	100	90-100	
	14-33	*Silt loam, silty clay loam	*CL, ML	*A-6, A-4, A-7-6	0	0	100	100	90-100	
	33-80	*Silt loam, silty clay loam, loam	*CL	*A-6, A-7-6	0	0	100	100	90-100	
4904A: Muskego, ponded	0-5	*Muck	*PT	*A-8	0	0	---	---	---	
	5-27	*Muck	*PT	*A-8	0	0	---	---	---	
	27-60	*Coprogeous silt loam, coprogeous silty clay loam, coprogeous earth	*OH, MH, OL	*A-7-5	0	0	95-100	95-100	85-100	
Peotone, ponded	0-25	*Silty clay loam	*MH	*A-7-5	0	0	100	95-100	90-100	
	25-53	*Silty clay, silty clay loam	*CH, CL	*A-7-6	0	0-3	98-100	95-100	90-100	
	53-60	*Silty clay loam, silt loam, silty clay	*CL, CH	*A-7-6, A-6	0	0-5	95-100	95-100	90-100	
M-W.										
Miscellaneous water										
W.										
Water										

Table 19.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility group" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	
23A: Blount-----	0-7	5-20	53-77	18-27	1.25-1.45	0.6-2	0.19-0.24	0.0-2.9	2.0-3.0	.32
	7-13	5-20	53-80	15-27	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	0.2-1.0	.37
	13-26	5-25	27-60	35-48	1.40-1.70	0.06-0.6	0.10-0.16	3.0-5.9	0.2-1.0	.37
	26-32	5-25	30-68	27-45	1.50-1.70	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.37
	32-60	5-25	35-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
23B: Blount-----	0-6	5-20	53-77	18-27	1.25-1.45	0.6-2	0.19-0.24	0.0-2.9	2.0-3.0	.32
	6-10	5-20	53-80	15-27	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	0.2-1.0	.37
	10-23	5-25	27-60	35-48	1.40-1.70	0.06-0.6	0.10-0.16	3.0-5.9	0.2-1.0	.37
	23-34	5-25	30-68	27-45	1.50-1.70	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.37
	34-60	5-25	35-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
49A: Watseka-----	0-10	72-88	0-26	2-13	1.35-1.55	6-20	0.10-0.12	0.0-2.9	1.0-2.5	.02
	10-32	72-95	0-27	1-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.10
	32-60	72-98	0-27	1-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05
54B: Plainfield-----	0-8	74-88	5-24	2-7	1.50-1.65	6-20	0.04-0.09	0.0-2.9	1.0-3.0	.02
	8-32	85-98	1-12	0-4	1.50-1.65	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.02
	32-60	85-98	1-12	0-4	1.50-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.02
67A: Harpster-----	0-18	3-15	50-70	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	4.5-6.5	.24
	18-41	3-15	50-70	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	1.5-3.0	.37
	41-56	3-27	58-82	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.5-1.0	.49
	56-60	30-50	28-55	15-27	1.45-1.65	0.6-2	0.10-0.20	0.0-2.9	0.1-0.5	.37
69A: Milford-----	0-9	3-20	40-62	35-40	1.30-1.50	0.6-2	0.20-0.23	6.0-8.9	4.0-6.0	.20
	9-22	3-20	40-57	40-42	1.30-1.50	0.2-0.6	0.14-0.20	6.0-8.9	3.0-5.0	.17
	22-50	1-25	33-64	35-42	1.40-1.60	0.2-0.6	0.18-0.20	6.0-8.9	0.5-2.0	.37
	50-60	2-55	12-80	18-33	1.50-1.70	0.2-0.6	0.20-0.22	3.0-5.9	0.0-1.0	.37
91A: Swygert-----	0-12	2-15	50-71	27-35	1.30-1.50	0.2-0.6	0.16-0.21	3.0-5.9	3.0-5.0	.20
	12-26	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32
	26-51	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32
	51-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.01-0.06	3.0-5.9	0.0-0.5	.37

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
91B: Swygert-----	0-11	2-15	50-71	27-35	1.30-1.50	0.2-0.6	0.16-0.21	3.0-5.9	3.0-5.0	.20
	11-23	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32
	23-45	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32
	45-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.01-0.06	3.0-5.9	0.0-0.5	.37
103A: Houghton-----	0-11	---	---	---	0.20-0.35	0.2-6	0.35-0.45	---	70-99	---
	11-60	---	---	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---
125A: Selma-----	0-6	20-45	28-60	20-27	1.40-1.60	0.6-2	0.17-0.24	0.0-2.9	4.0-6.0	.24
	6-13	20-45	20-53	27-35	1.40-1.60	0.6-2	0.17-0.19	3.0-5.9	3.0-5.0	.17
	13-44	15-62	6-67	18-32	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-2.0	.32
	44-80	30-90	0-63	7-18	1.60-1.90	2-6	0.07-0.19	0.0-2.9	0.0-1.0	.24
141A: Wesley-----	0-13	53-75	10-37	8-15	1.25-1.45	2-6	0.15-0.18	0.0-2.9	3.0-4.0	.24
	13-38	55-90	0-40	5-15	1.70-2.00	2-20	0.06-0.14	0.0-2.9	0.2-1.0	.20
	38-43	5-30	35-72	23-35	1.45-1.65	0.06-0.2	0.09-0.12	3.0-5.9	0.2-0.5	.37
	43-60	5-30	35-72	23-35	1.50-1.70	0.06-0.2	0.09-0.12	3.0-5.9	0.2-0.5	.37
146A: Elliott-----	0-6	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24
	6-11	2-15	50-71	27-35	1.20-1.40	0.6-2	0.17-0.22	3.0-5.9	2.5-4.0	.20
	11-16	1-20	30-59	40-50	1.40-1.60	0.06-0.6	0.10-0.13	6.0-8.9	0.5-1.5	.32
	16-41	5-20	40-65	27-40	1.50-1.90	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	41-60	5-20	45-65	27-35	1.70-2.00	0.06-0.2	0.02-0.07	3.0-5.9	0.0-0.5	.43
146B: Elliott-----	0-9	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24
	9-13	2-15	50-71	27-35	1.20-1.40	0.6-2	0.17-0.22	3.0-5.9	2.5-4.0	.20
	13-17	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.16	6.0-8.9	0.5-1.5	.32
	17-40	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	40-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.02-0.07	0.0-2.9	0.0-0.5	.43
152A: Drummer-----	0-14	0-15	50-73	27-35	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	4.0-7.0	.24
	14-42	0-15	50-80	20-35	1.20-1.45	0.6-2	0.17-0.22	3.0-5.9	0.5-2.0	.37
	42-50	15-55	12-70	15-33	1.30-1.55	0.6-2	0.14-0.20	0.0-2.9	0.2-0.5	.32
	50-60	15-85	0-75	10-32	1.40-1.70	0.6-6	0.10-0.14	0.0-2.9	0.0-0.2	.28

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
153A: Pella-----	0-12	0-15	50-73	27-35	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	4.0-6.0	.24
	12-33	0-15	50-73	27-35	1.20-1.45	0.6-2	0.17-0.22	3.0-5.9	0.5-2.0	.37
	33-42	10-55	15-75	15-30	1.35-1.60	0.6-2	0.14-0.20	0.0-2.9	0.2-0.5	.32
	42-60	15-85	0-75	10-30	1.40-1.70	0.6-6	0.10-0.19	0.0-2.9	0.0-0.2	.28
172A: Hoopeston-----	0-17	53-75	7-39	8-18	1.35-1.70	2-6	0.12-0.15	0.0-2.9	2.0-3.0	.15
	17-40	50-82	2-40	10-18	1.45-1.70	2-6	0.12-0.17	0.0-2.9	0.2-1.0	.24
	40-60	72-98	0-27	1-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05
189A: Martinton-----	0-12	3-20	53-77	20-27	1.20-1.40	0.6-2	0.19-0.24	0.0-2.9	4.0-5.0	.24
	12-39	5-20	35-60	35-45	1.25-1.45	0.2-0.6	0.11-0.20	6.0-8.9	0.5-2.0	.37
	39-60	10-65	5-75	15-42	1.40-1.60	0.2-0.6	0.11-0.19	3.0-5.9	0.0-0.5	.37
192A: Del Rey-----	0-4	2-20	53-83	15-27	1.25-1.45	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.32
	4-9	2-20	55-83	15-25	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	0.2-1.0	.37
	9-33	2-20	40-63	35-45	1.40-1.65	0.06-0.2	0.10-0.17	6.0-8.9	0.0-1.0	.37
	33-41	2-20	40-68	30-42	1.45-1.65	0.06-0.2	0.10-0.17	3.0-5.9	0.0-0.5	.37
201A: Gilford-----	41-60	2-25	45-76	22-33	1.50-1.70	0.06-0.2	0.10-0.15	3.0-5.9	0.0-0.5	.43
	0-22	52-75	7-38	10-18	1.45-1.65	2-6	0.13-0.17	0.0-2.9	3.0-5.0	.17
	22-41	55-80	2-37	8-18	1.55-1.75	2-6	0.12-0.14	0.0-2.9	0.2-1.5	.24
	41-60	75-97	0-24	1-8	1.65-1.85	6-20	0.02-0.07	0.0-2.9	0.0-0.5	.05
206A: Thorp-----	0-11	0-10	63-80	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	4.0-6.0	.28
	11-15	0-10	65-82	18-25	1.30-1.50	0.2-0.6	0.20-0.22	0.0-2.9	0.2-1.0	.43
	15-41	0-10	55-78	22-35	1.35-1.55	0.06-0.2	0.15-0.20	3.0-5.9	0.2-1.0	.37
	41-49	10-55	15-72	18-30	1.40-1.60	0.6-2	0.10-0.20	0.0-2.9	0.2-0.5	.32
223B: Varna-----	49-60	25-80	0-70	5-30	1.50-1.70	0.6-6	0.05-0.13	0.0-2.9	0.0-0.1	.28
	0-12	5-20	53-75	20-27	1.15-1.35	0.6-2	0.19-0.24	0.0-2.9	2.5-4.0	.24
	12-30	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.17	3.0-5.9	0.5-1.5	.37
	30-48	5-20	35-60	30-45	1.50-1.90	0.06-0.2	0.10-0.17	3.0-5.9	0.2-1.0	.37
223C2: Varna, eroded-----	48-60	5-22	40-68	27-40	1.70-2.00	0.06-0.2	0.05-0.10	3.0-5.9	0.0-0.5	.43
	0-9	5-20	53-75	20-27	1.15-1.35	0.6-2	0.19-0.24	0.0-2.9	2.0-3.0	.28
	9-29	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.17	3.0-5.9	0.5-1.5	.37
	29-50	5-20	35-60	30-45	1.50-1.70	0.06-0.2	0.10-0.17	3.0-5.9	0.2-1.0	.37
50-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2		0.05-0.10	0.0-2.9	0.0-0.5	.43

Table 19.-Physical Properties of the Soils-Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	
228A: Nappanee-----	0-5	5-20	53-75	20-27	1.25-1.45	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	5-8	5-20	53-77	18-27	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	0.2-1.0	.37
	8-26	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32
	26-48	5-25	20-55	40-55	1.60-1.80	0.02-0.06	0.03-0.09	3.0-5.9	0.1-0.5	.32
	48-75	5-25	30-65	30-45	1.70-1.90	0.02-0.06	0.00-0.05	3.0-5.9	0.0-0.5	.37
228B: Nappanee-----	0-4	5-20	53-75	20-27	1.25-1.45	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	4-9	5-20	53-77	18-27	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	0.2-1.0	.37
	9-23	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32
	23-46	5-25	20-55	40-55	1.60-1.80	0.02-0.06	0.03-0.09	3.0-5.9	0.1-0.5	.32
	46-60	5-25	30-65	30-45	1.70-1.90	0.02-0.06	0.00-0.05	3.0-5.9	0.0-0.5	.37
228C2: Nappanee, eroded----	0-5	5-20	42-68	27-38	1.30-1.50	0.6-2	0.16-0.21	3.0-5.9	1.0-2.5	.28
	5-8	5-20	45-68	27-35	1.30-1.50	0.6-2	0.15-0.20	3.0-5.9	0.2-1.0	.37
	8-23	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32
	23-27	5-25	20-55	40-55	1.60-1.80	0.02-0.06	0.03-0.09	3.0-5.9	0.1-0.5	.32
	27-80	5-25	30-65	30-45	1.70-1.90	0.02-0.06	0.00-0.05	3.0-5.9	0.0-0.5	.37
232A: Ashkum-----	0-12	1-15	45-64	35-40	1.20-1.45	0.2-0.6	0.18-0.21	6.0-8.9	3.0-7.0	.20
	12-29	2-15	40-63	35-45	1.30-1.50	0.2-0.6	0.15-0.18	6.0-8.9	0.5-2.5	.32
	29-54	5-20	40-65	30-40	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37
	54-60	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.07-0.15	3.0-5.9	0.0-0.5	.43
235A: Bryce-----	0-13	1-15	40-59	40-50	1.30-1.50	0.2-0.6	0.12-0.18	6.0-8.9	4.0-7.0	.17
	13-45	1-20	28-57	42-52	1.35-1.55	0.06-0.2	0.09-0.15	6.0-8.9	0.5-3.0	.32
	45-58	1-20	20-59	40-60	1.50-1.70	0.02-0.06	0.07-0.11	6.0-8.9	0.1-0.5	.32
	58-66	1-20	25-57	38-55	1.60-1.75	0.02-0.06	0.01-0.07	3.0-5.9	0.0-0.5	.37
241D3: Chatsworth, severely eroded----	0-2	1-15	25-59	40-60	1.35-1.60	0.02-0.06	0.09-0.16	3.0-5.9	0.5-1.0	.32
	2-22	1-15	25-64	35-60	1.50-1.70	0.02-0.06	0.05-0.11	3.0-5.9	0.0-0.5	.32
	22-60	2-15	35-63	35-50	1.70-1.90	0.02-0.06	0.00-0.05	3.0-5.9	0.0-0.5	.37
241E3: Chatsworth, severely eroded----	0-7	1-15	25-59	40-60	1.35-1.60	0.02-0.06	0.09-0.16	3.0-5.9	0.5-1.0	.32
	7-21	1-15	25-64	35-60	1.50-1.70	0.02-0.06	0.05-0.11	3.0-5.9	0.0-0.5	.32
	21-60	2-15	35-60	35-50	1.70-1.90	0.02-0.06	0.00-0.05	3.0-5.9	0.0-0.5	.37

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
290B: Warsaw-----	0-10	10-30	50-75	15-25	1.30-1.50	0.6-2	0.18-0.23	0.0-2.9	2.5-4.0	.24
	10-24	10-60	8-70	20-32	1.35-1.60	0.6-2	0.14-0.18	3.0-5.9	0.5-2.0	.32
	24-34	30-70	0-50	18-30	1.40-1.65	0.6-2	0.09-0.15	3.0-5.9	0.2-1.5	.28
	34-60	80-98	0-18	2-8	1.50-1.70	20-100	0.02-0.07	0.0-2.9	0.0-0.5	.02
293A: Andres-----	0-11	10-30	50-70	20-27	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	3.5-5.0	.24
	11-36	15-50	15-58	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32
	36-50	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.10-0.16	3.0-5.9	0.1-0.5	.37
	50-60	5-20	45-73	22-35	1.65-1.85	0.06-0.2	0.03-0.09	0.0-2.9	0.0-0.5	.43
294B: Symerton-----	0-15	10-30	50-70	20-27	1.30-1.50	0.6-2	0.17-0.21	0.0-2.9	2.5-4.0	.24
	15-19	10-20	45-63	27-35	1.40-1.60	0.6-2	0.14-0.20	3.0-5.9	1.0-3.0	.24
	19-35	25-50	15-50	24-35	1.45-1.70	0.6-2	0.09-0.15	3.0-5.9	0.1-1.0	.28
	35-39	2-20	45-74	24-35	1.50-1.70	0.2-0.6	0.14-0.19	3.0-5.9	0.1-0.5	.37
	39-60	2-20	48-78	20-32	1.60-1.80	0.06-0.2	0.07-0.13	0.0-2.9	0.0-0.5	.43
295A: Mokena-----	0-5	10-30	50-70	20-27	1.35-1.55	0.6-2	0.16-0.22	0.0-2.9	3.5-5.0	.24
	5-15	25-45	28-50	20-27	1.40-1.55	0.6-2	0.14-0.20	0.0-2.9	3.0-4.0	.24
	15-38	20-50	15-53	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32
	38-42	1-20	20-59	40-60	1.55-1.75	0.06-0.2	0.03-0.10	6.0-8.9	0.1-0.5	.32
	42-60	1-20	20-59	40-60	1.65-1.85	0.02-0.06	0.00-0.05	3.0-5.9	0.0-0.5	.37
298A: Beecher-----	0-9	2-15	58-78	20-27	1.25-1.45	0.6-2	0.20-0.24	0.0-2.9	2.0-4.0	.28
	9-21	2-15	35-63	35-50	1.40-1.60	0.06-0.6	0.11-0.16	3.0-5.9	0.2-1.0	.37
	21-37	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.11-0.17	3.0-5.9	0.1-0.5	.37
	37-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.00-0.07	0.0-2.9	0.0-0.5	.43
298B: Beecher-----	0-7	2-15	58-78	20-27	1.25-1.45	0.6-2	0.20-0.24	0.0-2.9	2.0-4.0	.28
	7-24	2-15	35-63	35-50	1.40-1.60	0.06-0.6	0.11-0.16	3.0-5.9	0.2-1.0	.37
	24-36	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.11-0.17	3.0-5.9	0.1-0.5	.37
	36-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.00-0.07	0.0-2.9	0.0-0.5	.43
318C2: Lorenzo, eroded-----	0-7	25-40	33-50	18-27	1.25-1.40	0.6-2	0.17-0.21	0.0-2.9	2.0-3.0	.28
	7-16	30-75	5-50	20-35	1.60-1.70	2-6	0.10-0.17	3.0-5.9	0.0-1.0	.28
	16-60	85-99	0-14	1-5	1.60-1.80	20-100	0.01-0.05	0.0-2.9	0.0-0.5	.02

Table 19.-Physical Properties of the Soils-Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	
318D2: Lorenzo, eroded-----	0-8	25-40	33-50	18-27	1.25-1.40	0.6-2	0.17-0.21	0.0-2.9	2.0-3.0	.28
	8-18	30-75	5-50	20-35	1.60-1.70	2-6	0.10-0.17	3.0-5.9	0.0-1.0	.28
	18-60	85-99	0-14	1-5	1.60-1.80	20-100	0.01-0.05	0.0-2.9	0.0-0.5	.02
320A: Frankfort-----	0-9	5-20	53-75	20-27	1.25-1.45	0.6-2	0.18-0.23	0.0-2.9	2.0-4.0	.28
	9-14	5-20	48-68	27-32	1.30-1.50	0.6-2	0.16-0.21	3.0-5.9	0.5-2.0	.37
	14-24	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32
	24-34	5-25	20-55	40-55	1.60-1.75	0.02-0.06	0.04-0.10	3.0-5.9	0.1-0.5	.32
	34-60	5-25	25-60	35-50	1.65-1.85	0.02-0.06	0.01-0.06	3.0-5.9	0.0-0.5	.37
320B: Frankfort-----	0-8	5-20	53-75	20-27	1.25-1.45	0.6-2	0.18-0.23	0.0-2.9	2.0-4.0	.28
	8-12	5-20	48-68	27-32	1.30-1.50	0.6-2	0.16-0.21	3.0-5.9	0.5-2.0	.37
	12-32	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32
	32-37	5-25	20-55	40-55	1.60-1.75	0.02-0.06	0.04-0.10	3.0-5.9	0.1-0.5	.32
	37-60	5-25	25-60	35-50	1.65-1.85	0.02-0.06	0.01-0.06	3.0-5.9	0.0-0.5	.37
320C2: Frankfort, eroded----	0-7	5-20	45-68	27-35	1.30-1.50	0.6-2	0.16-0.21	3.0-5.9	2.0-3.0	.24
	7-28	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32
	28-32	5-25	20-55	40-55	1.60-1.75	0.02-0.06	0.04-0.10	3.0-5.9	0.1-0.5	.32
	32-60	5-25	25-60	35-50	1.65-1.85	0.02-0.06	0.01-0.05	3.0-5.9	0.0-0.5	.37
327A: Fox-----	0-6	5-30	50-80	15-25	1.30-1.50	0.6-2	0.16-0.23	0.0-2.9	1.0-3.0	.32
	6-9	5-30	50-80	15-25	1.35-1.55	0.6-2	0.16-0.23	0.0-2.9	0.2-1.0	.37
	9-20	5-30	50-77	18-35	1.50-1.65	0.6-2	0.10-0.22	3.0-5.9	0.2-0.5	.32
	20-27	20-75	5-50	18-35	1.55-1.65	0.6-2	0.10-0.17	3.0-5.9	0.0-0.5	.28
	27-60	90-98	0-10	0-2	1.45-1.70	20-100	0.02-0.07	0.0-2.9	0.0-0.5	.02
327B: Fox-----	0-4	5-30	50-80	15-25	1.30-1.50	0.6-2	0.16-0.23	0.0-2.9	1.0-3.0	.32
	4-7	5-30	50-80	15-25	1.35-1.55	0.6-2	0.16-0.23	0.0-2.9	0.2-1.0	.37
	7-13	5-30	50-77	18-35	1.50-1.65	0.6-2	0.10-0.22	3.0-5.9	0.2-0.5	.32
	13-28	20-75	5-50	18-35	1.55-1.65	0.6-2	0.10-0.17	3.0-5.9	0.0-0.5	.28
	28-60	90-98	0-10	0-2	1.45-1.70	20-100	0.02-0.07	0.0-2.9	0.0-0.5	.02
327C2: Fox, eroded-----	0-4	5-30	50-80	15-25	1.30-1.50	0.6-2	0.16-0.23	0.0-2.9	1.0-2.0	.32
	4-12	5-30	50-77	18-35	1.50-1.65	0.6-2	0.10-0.22	3.0-5.9	0.2-0.5	.32
	12-24	20-75	5-50	18-35	1.55-1.65	0.6-2	0.10-0.17	3.0-5.9	0.0-0.5	.28
	24-60	90-98	0-10	0-2	1.45-1.70	20-100	0.02-0.07	0.0-2.9	0.0-0.5	.02

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
329A: Will	0-16	5-20	45-68	27-35	1.25-1.40	0.6-2	0.16-0.21	3.0-5.9	4.0-6.0	.20
	16-24	15-50	20-62	23-33	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.5-2.0	.32
	24-60	85-99	0-15	0-10	1.65-1.85	20-100	0.01-0.05	0.0-2.9	0.1-1.0	.02
330A: Peotone	0-13	0-10	50-67	33-40	1.20-1.40	0.2-0.6	0.18-0.22	6.0-8.9	5.0-7.0	.24
	13-50	0-10	45-65	35-45	1.30-1.60	0.2-0.6	0.11-0.18	6.0-8.9	0.5-3.0	.37
	50-60	0-20	38-75	25-42	1.40-1.65	0.2-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.43
343A: Kane	0-11	5-25	50-77	18-27	1.30-1.50	0.6-2	0.17-0.24	0.0-2.9	3.0-5.0	.24
	11-26	5-25	40-70	25-35	1.35-1.55	0.6-2	0.15-0.20	3.0-5.9	0.5-1.5	.32
	26-34	30-60	10-50	15-30	1.40-1.60	0.6-2	0.12-0.18	3.0-5.9	0.2-1.0	.32
	34-60	85-99	0-14	1-10	1.60-1.85	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02
361B: Kidder	0-9	25-50	28-50	10-25	1.35-1.55	0.6-2	0.16-0.21	0.0-2.9	1.0-3.0	.32
	9-31	25-65	5-50	20-30	1.40-1.60	0.6-2	0.13-0.18	3.0-5.9	0.2-1.0	.32
	31-34	45-70	17-47	8-18	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.2-0.5	.24
	34-60	55-75	10-39	6-15	1.45-1.65	2-6	0.06-0.13	0.0-2.9	0.0-0.5	.20
361C2: Kidder, eroded	0-8	25-50	28-50	10-25	1.35-1.55	0.6-2	0.16-0.21	0.0-2.9	1.0-2.0	.32
	8-30	25-65	5-50	20-30	1.40-1.60	0.6-2	0.13-0.18	3.0-5.9	0.2-1.0	.32
	30-41	45-70	17-47	8-18	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.2-0.5	.24
	41-60	55-75	10-39	6-15	1.45-1.65	2-6	0.06-0.13	0.0-2.9	0.0-0.5	.20
361D2: Kidder, eroded	0-7	25-50	28-50	10-25	1.35-1.55	0.6-2	0.16-0.21	0.0-2.9	1.0-2.0	.32
	7-23	25-65	5-50	20-30	1.40-1.60	0.6-2	0.13-0.18	3.0-5.9	0.2-1.0	.32
	23-27	45-70	17-47	8-18	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.2-0.5	.24
	27-60	55-75	10-39	6-15	1.45-1.65	2-6	0.06-0.13	0.0-2.9	0.0-0.5	.20
361E2: Kidder, eroded	0-8	25-50	28-50	10-25	1.35-1.55	0.6-2	0.16-0.21	0.0-2.9	1.0-2.0	.32
	8-29	25-65	5-50	20-30	1.40-1.60	0.6-2	0.13-0.18	3.0-5.9	0.2-1.0	.32
	29-60	55-75	10-39	6-15	1.45-1.65	2-6	0.06-0.13	0.0-2.9	0.0-0.5	.20
363B: Griswold	0-15	25-50	28-50	15-25	1.10-1.30	0.6-2	0.16-0.22	0.0-2.9	2.5-4.0	.24
	15-34	20-60	10-52	20-32	1.20-1.40	0.6-2	0.14-0.19	3.0-5.9	0.2-1.0	.32
	34-39	40-70	10-50	10-20	1.40-1.60	0.6-2	0.12-0.14	0.0-2.9	0.1-0.5	.24
	39-60	50-75	10-45	5-15	1.45-1.65	0.6-6	0.09-0.13	0.0-2.9	0.0-0.5	.20

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	
363C2: Griswold, eroded----	0-10	25-50	28-50	15-25	1.10-1.30	0.6-2	0.16-0.22	0.0-2.9	2.0-3.5	.28
	10-24	20-60	10-52	20-32	1.20-1.40	0.6-2	0.14-0.19	3.0-5.9	0.2-1.0	.32
	24-27	40-70	10-50	10-20	1.40-1.60	0.6-2	0.12-0.14	0.0-2.9	0.1-0.5	.24
	27-60	50-75	10-45	5-15	1.45-1.65	0.6-6	0.09-0.13	0.0-2.9	0.0-0.5	.20
367. Beaches										
369B: Waupecan-----	0-11	5-15	68-80	15-27	1.15-1.35	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.28
	11-39	5-15	50-70	25-35	1.30-1.50	0.6-2	0.16-0.21	3.0-5.9	0.5-1.0	.37
	39-45	35-75	5-50	10-30	1.55-1.75	0.6-6	0.08-0.16	0.0-2.9	0.2-0.5	.28
	45-60	80-99	0-20	0-10	1.60-1.80	20-100	0.01-0.05	0.0-2.9	0.0-0.5	.02
370B: Saylesville-----	0-9	3-20	53-80	15-27	1.25-1.45	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	9-21	3-20	40-62	35-45	1.40-1.65	0.2-0.6	0.10-0.17	3.0-5.9	0.0-1.0	.37
	21-34	3-20	40-67	30-42	1.45-1.65	0.2-0.6	0.11-0.18	3.0-5.9	0.0-0.5	.37
	34-60	3-25	45-75	22-33	1.50-1.70	0.2-0.6	0.10-0.16	3.0-5.9	0.0-0.5	.43
392A: Urban land.										
Orthents, loamy, nearly level-----	0-8	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.13-0.19	0.0-2.9	0.5-2.0	.43
	8-60	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.09-0.17	3.0-5.9	0.2-1.0	.43
392B: Urban land.										
Orthents, loamy, gently sloping-----	0-7	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.13-0.19	0.0-2.9	0.5-2.0	.43
	7-60	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.09-0.17	3.0-5.9	0.2-1.0	.43
442A: Mundelein-----	0-17	0-15	58-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28
	17-31	0-15	50-75	25-35	1.20-1.45	0.6-2	0.16-0.20	3.0-5.9	0.5-2.0	.37
	31-42	10-60	10-75	15-30	1.40-1.55	0.6-2	0.12-0.18	0.0-2.9	0.2-0.5	.32
	42-60	10-75	5-80	5-25	1.50-1.70	0.6-6	0.09-0.15	0.0-2.9	0.0-0.2	.28

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
443B: Barrington-----	0-11	0-15	58-80	20-27	1.20-1.40	0.6-2	0.22-0.26	0.0-2.9	3.0-5.0	.28
	11-32	0-15	50-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37
	32-42	10-60	10-75	15-30	1.40-1.55	0.6-2	0.12-0.18	0.0-2.9	0.2-0.5	.32
	42-60	10-90	2-80	2-25	1.50-1.70	0.6-6	0.08-0.16	0.0-2.9	0.0-0.2	.28
494B: Kankakee-----	0-11	52-65	15-38	10-20	1.35-1.55	0.6-2	0.15-0.20	0.0-2.9	2.0-4.0	.24
	11-14	35-65	5-47	18-35	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.2-1.0	.32
	14-21	35-70	5-50	10-25	1.45-1.65	0.6-6	0.08-0.15	0.0-2.9	0.1-0.5	.24
	21-60	35-75	5-50	5-20	1.50-1.70	2-6	0.06-0.13	0.0-2.9	0.0-0.5	.17
503B: Rockton-----	0-11	15-32	50-65	18-25	1.30-1.45	0.6-2	0.19-0.23	0.0-2.9	3.0-5.0	.24
	11-31	20-50	20-55	25-35	1.40-1.55	0.6-2	0.13-0.18	3.0-5.9	0.5-1.5	.32
	31-35	10-35	10-55	35-60	1.35-1.45	0.06-0.6	0.10-0.17	6.0-8.9	0.0-0.5	.20
	35-60	---	---	---	---	2-20	---	---	---	---
522B: Orthents, clayey, refuse substratum, undulating-----	0-8	2-20	40-66	32-40	1.50-1.65	0.06-0.2	0.08-0.14	6.0-8.9	1.0-4.0	.37
	8-38	2-30	15-63	35-55	1.60-1.80	0.02-0.06	0.01-0.07	6.0-8.9	0.2-1.0	.32
	38-60	2-30	20-68	30-50	1.30-1.55	0.06-0.6	0.07-0.12	3.0-5.9	1.0-5.0	.05
522D: Orthents, clayey, refuse substratum, rolling-----	0-6	2-20	40-66	32-40	1.50-1.65	0.06-0.2	0.08-0.14	6.0-8.9	1.0-4.0	.37
	6-37	2-30	15-63	35-55	1.60-1.80	0.02-0.06	0.01-0.07	6.0-8.9	0.2-1.0	.32
	37-60	2-30	20-68	30-50	1.30-1.55	0.06-0.6	0.07-0.12	3.0-5.9	1.0-5.0	.05
522F: Orthents, clayey, refuse substratum, steep-----	0-6	2-20	40-66	32-40	1.50-1.65	0.06-0.2	0.08-0.14	6.0-8.9	1.0-4.0	.37
	6-34	2-30	15-63	35-55	1.60-1.80	0.02-0.06	0.01-0.07	6.0-8.9	0.2-1.0	.32
	34-60	2-30	20-68	30-50	1.30-1.55	0.06-0.6	0.07-0.12	3.0-5.9	1.0-5.0	.05
523A: Dunham-----	0-11	5-15	50-68	27-35	1.10-1.30	0.6-2	0.19-0.23	3.0-5.9	4.0-6.0	.24
	11-31	5-20	45-72	23-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	0.5-2.0	.37
	31-42	20-70	5-70	10-30	1.35-1.60	0.6-6	0.13-0.18	3.0-5.9	0.1-0.5	.32
	42-60	75-98	0-20	1-10	1.60-1.80	20-100	0.02-0.07	0.0-2.9	0.0-0.5	.02

Table 19.-Physical Properties of the Soils-Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
526A: Grundelein-----	0-13	1-15	58-81	18-27	1.15-1.30	0.6-2	0.20-0.25	0.0-2.9	4.0-5.0	.28
	13-29	1-20	45-77	22-35	1.25-1.45	0.6-2	0.16-0.20	3.0-5.9	0.5-2.0	.37
	29-43	20-70	5-70	10-30	1.35-1.60	0.6-6	0.13-0.18	3.0-5.9	0.1-0.5	.32
	43-60	75-98	0-20	1-10	1.60-1.80	20-100	0.02-0.07	0.0-2.9	0.0-0.5	.02
529A: Selmass-----	0-16	25-50	28-50	18-27	1.35-1.45	0.6-2	0.17-0.22	0.0-2.9	4.0-6.0	.24
	16-33	20-50	20-50	20-35	1.40-1.55	0.6-2	0.13-0.19	3.0-5.9	0.5-2.0	.32
	33-51	30-85	2-50	10-20	1.45-1.65	0.6-6	0.08-0.17	0.0-2.9	0.0-0.5	.28
	51-60	75-98	0-24	1-10	1.55-1.70	6-20	0.03-0.10	0.0-2.9	0.0-0.5	.05
530B: Ozaukee-----	0-4	5-15	58-80	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	4-10	5-15	58-80	15-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37
	10-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	21-39	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	39-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
530C: Ozaukee-----	0-5	5-15	58-80	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	5-10	5-15	58-80	15-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37
	10-33	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	33-38	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	38-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
530C2: Ozaukee-----	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-2.0	.32
	6-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	21-28	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	28-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
530D: Ozaukee-----	0-4	5-15	58-80	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	4-9	5-15	58-80	15-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37
	9-34	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	34-39	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	39-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
530D2: Ozaukee-----	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-2.0	.32
	6-20	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	20-28	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	28-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
530D3: Ozaukee	0-9	5-15	45-68	27-40	1.45-1.60	0.2-0.6	0.10-0.21	3.0-5.9	0.5-1.0	.37
	9-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	21-25	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	25-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
530E: Ozaukee	0-4	5-15	58-80	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	4-8	5-15	58-80	15-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37
	8-20	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	20-25	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	25-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
530F: Ozaukee	0-5	5-15	58-80	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	5-29	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	29-36	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	36-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
531B: Markham	0-8	5-15	58-73	20-27	1.15-1.35	0.6-2	0.20-0.24	0.0-2.9	2.0-4.0	.28
	8-21	5-20	35-60	35-50	1.40-1.60	0.06-0.6	0.11-0.19	3.0-5.9	0.2-1.0	.37
	21-32	5-20	35-65	30-45	1.55-1.75	0.06-0.2	0.08-0.16	3.0-5.9	0.1-0.5	.37
	32-60	5-25	37-68	27-38	1.65-1.85	0.06-0.2	0.05-0.11	0.0-2.9	0.0-0.5	.43
531C2: Markham, eroded	0-8	5-15	58-73	20-27	1.10-1.40	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.28
	8-20	5-20	35-60	35-50	1.40-1.60	0.06-0.6	0.11-0.19	3.0-5.9	0.2-1.0	.37
	20-29	5-20	35-65	30-45	1.55-1.75	0.06-0.2	0.08-0.16	3.0-5.9	0.1-0.5	.37
	29-60	5-25	37-68	27-38	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
531D2: Markham, eroded	0-7	5-15	58-73	20-27	1.10-1.40	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.28
	7-20	5-20	35-60	35-50	1.40-1.60	0.06-0.6	0.11-0.19	3.0-5.9	0.2-1.0	.37
	20-30	5-20	35-65	30-45	1.55-1.75	0.06-0.2	0.08-0.16	3.0-5.9	0.1-0.5	.37
	30-60	5-25	37-68	27-38	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
533. Urban land										
534A: Urban land.										
Orthents, clayey, nearly level	0-8	2-20	40-58	40-55	1.50-1.65	0.02-0.06	0.08-0.14	6.0-8.9	0.5-2.0	.43
	8-60	2-30	10-60	35-60	1.60-1.90	0.02-0.06	0.03-0.10	6.0-8.9	0.2-1.0	.43

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth		Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion	
	In	Pct									In	Pct
534B: Urban land.												
Orthents, clayey, gently sloping-----	0-7	2-20	2-20	40-58	40-55	1.50-1.65	0.06-0.2	0.08-0.14	6.0-8.9	0.5-2.0		.43
	7-60	2-30	10-60	15-60	35-60	1.60-1.90	0.02-0.06	0.03-0.10	6.0-8.9	0.2-1.0		.43
535B: Orthents, undulating, stony--	0-6	33-50	23-50	15-27	1.70-1.90	0.2-2		0.12-0.17	0.0-2.9	0.5-1.0		.37
	6-60	25-60	10-50	15-30	1.70-1.90	0.2-2		0.11-0.16	0.0-2.9	0.0-0.2		.37
541B: Graymont-----	0-12	0-10	63-78	22-27	1.15-1.35	0.6-2		0.21-0.25	0.0-2.9	3.0-5.0		.28
	12-33	0-10	55-75	25-35	1.30-1.50	0.6-2		0.16-0.20	3.0-5.9	0.2-2.0		.37
	33-38	10-20	40-68	22-40	1.50-1.70	0.06-0.6		0.13-0.18	3.0-5.9	0.1-0.5		.37
	38-60	10-20	50-66	24-34	1.60-1.80	0.06-0.2		0.07-0.12	0.0-2.9	0.0-0.5		.43
560D2: St. Clair, eroded---	0-5	2-20	42-71	27-38	1.30-1.50	0.6-2		0.16-0.21	3.0-5.9	1.0-2.5		.28
	5-8	2-20	45-71	27-35	1.30-1.50	0.6-2		0.15-0.20	3.0-5.9	0.2-1.0		.37
	8-22	2-20	20-53	45-60	1.40-1.65	0.06-0.2		0.08-0.14	3.0-5.9	0.2-1.0		.32
	22-37	5-25	20-55	40-55	1.60-1.80	0.02-0.06		0.03-0.09	3.0-5.9	0.1-0.5		.32
	37-65	5-25	20-60	35-55	1.70-1.90	0.02-0.06		0.00-0.05	3.0-5.9	0.0-0.5		.37
571A: Whitaker-----	0-10	30-50	30-50	12-20	1.30-1.45	0.6-2		0.17-0.22	0.0-2.9	1.0-3.0		.32
	10-47	18-55	15-52	20-35	1.40-1.60	0.6-2		0.13-0.18	3.0-5.9	0.5-1.0		.32
	47-54	35-65	15-50	10-25	1.45-1.65	0.6-2		0.10-0.16	0.0-2.9	0.1-0.5		.28
	54-60	30-85	5-55	5-18	1.50-1.70	0.6-6		0.08-0.16	0.0-2.9	0.0-0.5		.24
614A: Chenoa-----	0-12	1-8	57-72	27-35	1.20-1.40	0.6-2		0.17-0.22	3.0-5.9	3.5-5.0		.28
	12-32	1-8	47-64	35-45	1.30-1.50	0.2-0.6		0.15-0.20	6.0-8.9	0.5-1.5		.37
	32-36	5-20	40-70	25-40	1.50-1.70	0.2-0.6		0.12-0.17	3.0-5.9	0.1-0.5		.37
	36-60	5-20	45-71	24-35	1.60-1.80	0.06-0.2		0.05-0.10	0.0-2.9	0.0-0.5		.43
696A: Zurich-----	0-5	0-15	58-85	15-27	1.25-1.45	0.6-2		0.22-0.24	0.0-2.9	1.0-3.0		.43
	5-10	0-15	58-85	15-27	1.30-1.50	0.6-2		0.21-0.23	0.0-2.9	0.5-1.0		.49
	10-29	0-15	50-75	25-35	1.20-1.45	0.6-2		0.18-0.20	3.0-5.9	0.2-1.0		.37
	29-36	10-60	13-75	10-27	1.45-1.65	0.6-2		0.12-0.19	0.0-2.9	0.2-0.5		.32
	36-60	10-85	0-80	5-25	1.50-1.75	0.6-6		0.10-0.18	0.0-2.9	0.0-0.5		.28

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
696B: Zurich-----	0-5	0-15	58-85	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43
	5-9	0-15	58-85	15-27	1.30-1.50	0.6-2	0.21-0.23	0.0-2.9	0.5-1.0	.49
	9-28	0-15	50-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37
	28-38	10-60	13-75	10-27	1.45-1.65	0.6-2	0.12-0.19	0.0-2.9	0.2-0.5	.32
	38-64	10-85	0-80	5-25	1.50-1.75	0.6-6	0.10-0.18	0.0-2.9	0.0-0.5	.28
696C2: Zurich, eroded-----	0-10	0-15	58-85	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43
	10-27	0-15	50-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37
	27-40	10-60	13-75	10-27	1.45-1.65	0.6-2	0.12-0.19	0.0-2.9	0.2-0.5	.32
	40-60	10-85	0-80	5-25	1.50-1.75	0.6-6	0.10-0.18	0.0-2.9	0.0-0.5	.28
696D2: Zurich, eroded-----	0-6	0-15	58-85	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43
	6-25	0-15	50-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37
	25-35	10-60	13-75	10-27	1.45-1.65	0.6-2	0.12-0.19	0.0-2.9	0.2-0.5	.32
	35-60	10-85	0-80	5-25	1.50-1.75	0.6-6	0.10-0.18	0.0-2.9	0.0-0.5	.28
697A: Wauconda-----	0-9	0-15	58-85	15-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37
	9-14	0-15	58-85	15-27	1.20-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43
	14-30	0-15	50-75	25-35	1.25-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37
	30-38	10-60	13-75	10-27	1.40-1.60	0.6-2	0.12-0.19	0.0-2.9	0.2-0.5	.32
	38-60	15-87	0-80	5-20	1.50-1.70	0.6-6	0.07-0.16	0.0-2.9	0.0-0.2	.28
698B: Grays-----	0-8	0-15	58-85	15-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37
	8-11	0-15	58-85	15-27	1.20-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.43
	11-34	0-15	50-75	25-35	1.25-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37
	34-42	15-60	15-75	8-25	1.40-1.60	0.6-2	0.12-0.19	0.0-2.9	0.2-0.5	.32
	42-60	15-85	0-80	5-20	1.50-1.70	0.6-6	0.07-0.16	0.0-2.9	0.0-0.2	.28
740A: Darroch-----	0-15	10-30	50-75	12-26	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	2.5-4.0	.24
	15-21	10-45	25-70	18-35	1.45-1.60	0.6-2	0.15-0.20	3.0-5.9	0.5-1.5	.32
	21-29	25-65	10-50	18-35	1.40-1.60	0.6-2	0.13-0.18	3.0-5.9	0.2-1.0	.32
	29-60	15-60	20-75	5-20	1.50-1.70	0.6-6	0.11-0.21	0.0-2.9	0.0-0.5	.28
741B: Oakville-----	0-7	185-100	0-15	0-10	1.30-1.55	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02
	7-40	175-100	0-25	0-10	1.35-1.65	6-20	0.06-0.11	0.0-2.9	0.1-0.5	.15
	40-60	175-100	0-25	0-10	1.40-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	<u>In</u>	<u>Pct</u>	<u>Pct</u>	<u>Pct</u>	<u>g/cc</u>	<u>In/hr</u>	<u>In/in</u>	<u>Pct</u>	<u>Pct</u>	<u>Kw</u>
741D: Oakville-----	0-6	85-100	0-15	0-10	1.30-1.55	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02
	6-30	75-100	0-25	0-10	1.35-1.65	6-20	0.06-0.11	0.0-2.9	0.1-0.5	.15
	30-60	75-100	0-25	0-10	1.40-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15
800A: Psammets, nearly level-----	0-10	23-50	28-50	20-27	1.60-1.75	0.2-0.6	0.12-0.17	0.0-2.9	0.5-3.0	.43
	10-38	85-100	0-15	0-10	1.50-1.70	6-20	0.04-0.09	0.0-2.9	0.0-0.5	.02
	38-60	85-100	0-12	0-4	1.50-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.02
802A: Orthents, loamy, nearly level-----	0-8	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.13-0.19	0.0-2.9	0.5-2.0	.43
	8-60	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.09-0.17	3.0-5.9	0.2-1.0	.43
802B: Orthents, loamy, undulating-----	0-7	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.13-0.19	0.0-2.9	0.5-2.0	.43
	7-60	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.09-0.17	3.0-5.9	0.2-1.0	.43
802D: Orthents, loamy, rolling-----	0-6	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.13-0.19	0.0-2.9	0.5-2.0	.43
	6-60	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.09-0.17	3.0-5.9	0.2-1.0	.43
805A: Orthents, clayey, nearly level-----	0-8	2-20	40-58	40-55	1.50-1.65	0.02-0.06	0.08-0.14	6.0-8.9	0.5-2.0	.43
	8-60	2-30	10-60	35-60	1.60-1.90	0.02-0.06	0.03-0.10	6.0-8.9	0.2-1.0	.43
805B: Orthents, clayey, undulating-----	0-7	2-20	40-58	40-55	1.50-1.65	0.06-0.2	0.08-0.14	6.0-8.9	0.5-2.0	.43
	7-60	2-30	10-60	35-60	1.60-1.90	0.02-0.06	0.03-0.10	6.0-8.9	0.2-1.0	.43
805D: Orthents, clayey, rolling-----	0-6	2-20	40-58	40-55	1.50-1.65	0.02-0.06	0.08-0.14	6.0-8.9	0.5-2.0	.43
	6-60	2-30	10-60	35-60	1.60-1.90	0.02-0.06	0.03-0.10	6.0-8.9	0.2-1.0	.43
807A: Orthents, loamy-skeletal, nearly level-----	0-9	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.09-0.15	0.0-2.9	0.5-2.5	.37
	9-60	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.07-0.14	3.0-5.9	0.2-1.0	.32

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
807B: Orthents, loamy-skeletal, undulating-----										
	0-6	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.09-0.15	0.0-2.9	0.5-2.5	.37
	6-60	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.07-0.14	3.0-5.9	0.2-1.0	.32
811A: Alflic Udarents, clayey-----										
	0-9	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-4.0	.37
	9-37	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	37-42	1-20	30-59	40-50	1.40-1.60	0.06-0.6	0.10-0.13	6.0-8.9	0.5-1.5	.32
811B: Alflic Udarents, clayey-----										
	42-56	5-20	40-65	27-40	1.50-1.90	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	56-60	5-20	45-65	27-35	1.70-2.00	0.06-0.2	0.02-0.07	3.0-5.9	0.0-0.5	.43
811D: Alflic Udarents, clayey-----										
	0-7	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-4.0	.37
	7-35	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	35-39	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.16	6.0-8.9	0.5-1.5	.32
811D: Alflic Udarents, clayey-----										
	39-54	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	54-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.02-0.07	0.0-2.9	0.0-0.5	.43
822A: Alflic Udarents, clayey-----										
	0-6	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-4.0	.37
	6-33	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	33-41	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.17	6.0-8.9	0.5-1.5	.37
822A: Alflic Udarents, clayey-----										
	41-51	5-20	35-60	30-45	1.50-1.90	0.06-0.2	0.10-0.17	3.0-5.9	0.2-1.0	.37
	51-60	5-22	40-68	27-40	1.70-2.00	0.06-0.2	0.05-0.10	3.0-5.9	0.0-0.5	.43
Elliott-----										
	0-6	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24
	6-11	2-15	50-71	27-35	1.20-1.40	0.6-2	0.17-0.22	3.0-5.9	2.5-4.0	.20
	11-16	1-20	30-59	40-50	1.40-1.60	0.06-0.6	0.10-0.13	6.0-8.9	0.5-1.5	.32
Elliott-----										
	16-41	5-20	40-65	27-40	1.50-1.90	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	41-60	5-20	45-65	27-35	1.70-2.00	0.06-0.2	0.02-0.07	3.0-5.9	0.0-0.5	.43

Table 19.-Physical Properties of the Soils-Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	
822B: Alfic Udarents, clayey-----	0-7	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-4.0	.37
	7-35	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	35-39	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.16	6.0-8.9	0.5-1.5	.32
	39-54	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	54-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.02-0.07	0.0-2.9	0.0-0.5	.43
Elliott-----	0-9	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24
	9-13	2-15	50-71	27-35	1.20-1.40	0.6-2	0.17-0.22	3.0-5.9	2.5-4.0	.20
	13-17	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.16	6.0-8.9	0.5-1.5	.32
	17-40	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	40-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.02-0.07	0.0-2.9	0.0-0.5	.43
830. Landfills										
848B: Drummer-----	0-14	0-15	50-73	27-35	1.10-1.30	0.6-2	0.18-0.23	3.0-5.9	4.0-7.0	.24
	14-42	0-15	50-80	20-35	1.20-1.45	0.6-2	0.17-0.22	3.0-5.9	0.5-2.0	.37
	42-50	15-55	12-70	15-33	1.30-1.55	0.6-2	0.14-0.20	0.0-2.9	0.2-0.5	.32
	50-60	15-85	0-75	10-32	1.40-1.70	0.6-6	0.10-0.17	0.0-2.9	0.0-0.2	.28
Barrington-----	0-11	0-15	58-80	20-27	1.20-1.40	0.6-2	0.22-0.26	0.0-2.9	3.0-5.0	.28
	11-32	0-15	50-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37
	32-42	10-60	10-75	15-30	1.40-1.55	0.6-2	0.12-0.18	0.0-2.9	0.2-0.5	.32
	42-60	10-90	2-80	2-25	1.50-1.70	0.6-6	0.05-0.15	0.0-2.9	0.0-0.2	.28
Mundelein-----	0-17	0-15	58-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28
	17-31	0-15	50-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37
	31-42	10-60	10-75	15-30	1.40-1.55	0.6-2	0.12-0.18	0.0-2.9	0.2-0.5	.32
	42-60	10-75	5-80	5-25	1.50-1.70	0.6-6	0.05-0.15	0.0-2.9	0.0-0.2	.28
849A: Milford-----	0-9	3-20	40-62	35-40	1.30-1.50	0.6-2	0.20-0.23	6.0-8.9	4.0-6.0	.20
	9-22	3-20	40-57	40-42	1.30-1.50	0.2-0.6	0.14-0.20	6.0-8.9	3.0-5.0	.17
	22-50	1-25	33-64	35-42	1.40-1.60	0.2-0.6	0.18-0.20	6.0-8.9	0.5-2.0	.37
	50-60	2-55	12-80	18-33	1.50-1.70	0.2-0.6	0.20-0.22	3.0-5.9	0.0-1.0	.37
Martinton-----	0-12	3-20	53-77	20-27	1.20-1.40	0.6-2	0.19-0.24	0.0-2.9	4.0-5.0	.24
	12-39	5-20	35-60	35-45	1.25-1.45	0.2-0.6	0.11-0.20	6.0-8.9	0.5-2.0	.37
	39-60	10-65	5-75	15-42	1.40-1.60	0.2-0.6	0.11-0.19	3.0-5.9	0.0-0.5	.37

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
854B: Markham-----	0-8	5-15	58-73	20-27	1.15-1.35	0.6-2	0.20-0.24	0.0-2.9	2.0-4.0	.28
	8-21	5-20	35-60	35-50	1.40-1.60	0.06-0.6	0.11-0.19	3.0-5.9	0.2-1.0	.37
	21-32	5-20	35-65	30-45	1.55-1.75	0.06-0.2	0.08-0.16	3.0-5.9	0.1-0.5	.37
	32-60	5-25	37-68	27-38	1.65-1.85	0.06-0.2	0.05-0.11	0.0-2.9	0.0-0.5	.43
Ashkum-----	0-12	1-15	45-64	35-40	1.20-1.45	0.2-0.6	0.18-0.21	6.0-8.9	3.0-7.0	.20
	12-29	2-15	40-63	35-45	1.30-1.50	0.2-0.6	0.15-0.18	6.0-8.9	0.5-2.5	.32
	29-54	5-20	40-65	30-40	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37
	54-60	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.07-0.15	3.0-5.9	0.0-0.5	.43
Beecher-----	0-7	2-15	58-78	20-27	1.25-1.45	0.6-2	0.20-0.24	0.0-2.9	2.0-4.0	.28
	7-24	2-15	35-63	35-50	1.40-1.60	0.06-0.6	0.11-0.16	3.0-5.9	0.2-1.0	.37
	24-36	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.11-0.17	3.0-5.9	0.1-0.5	.37
	36-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.00-0.07	0.0-2.9	0.0-0.5	.43
862. Pits, sand										
863. Pits, clay										
864. Pits, quarry										
865. Pits, gravel										
903A: Muskego-----	0-5	---	---	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---
	5-36	---	---	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---
	36-80	4-25	40-78	18-35	0.30-1.10	0.06-0.2	0.18-0.24	3.0-5.9	6.0-20	.32
Houghton-----	0-19	---	---	---	0.20-0.35	0.2-6	0.35-0.45	---	70-99	---
	19-60	---	---	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---
925B: Frankfort-----	0-8	5-20	53-75	20-27	1.25-1.45	0.6-2	0.18-0.23	0.0-2.9	2.0-4.0	.28
	8-12	5-20	48-68	27-32	1.30-1.50	0.6-2	0.16-0.21	3.0-5.9	0.5-2.0	.37
	12-32	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32
	32-37	5-25	20-55	40-55	1.60-1.75	0.02-0.06	0.04-0.10	3.0-5.9	0.1-0.5	.32
	37-60	5-25	25-60	35-50	1.65-1.85	0.02-0.06	0.01-0.06	3.0-5.9	0.0-0.5	.37

Table 19.-Physical Properties of the Soils-Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
925B: Bryce-----	0-13	1-15	40-59	40-50	1.30-1.50	0.2-0.6	0.12-0.18	6.0-8.9	4.0-7.0	.17
	13-45	1-20	28-57	42-52	1.35-1.55	0.06-0.2	0.09-0.15	6.0-8.9	0.5-3.0	.32
	45-58	1-20	20-59	40-60	1.50-1.70	0.02-0.06	0.07-0.11	6.0-8.9	0.1-0.5	.32
	58-66	1-20	25-57	38-55	1.60-1.75	0.02-0.06	0.01-0.07	3.0-5.9	0.0-0.5	.37
969E2: Casco, eroded-----	0-5	25-50	28-50	12-25	1.35-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-2.0	.32
	5-19	20-60	10-50	18-35	1.55-1.65	0.6-2	0.09-0.15	3.0-5.9	0.2-1.0	.28
	19-60	87-98	0-13	0-5	1.45-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02
Rodman, eroded-----	0-6	30-52	23-55	8-25	1.20-1.50	2-6	0.10-0.14	0.0-2.9	2.0-3.0	.20
	6-10	40-80	0-55	5-25	1.10-1.50	2-6	0.09-0.13	0.0-2.9	0.0-2.0	.24
	10-60	85-98	0-15	0-10	1.60-1.70	20-100	0.02-0.04	0.0-2.9	0.0-1.0	.02
969F: Casco-----	0-4	25-50	28-50	12-25	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.0-2.0	.32
	4-15	20-60	10-50	18-35	1.55-1.65	0.6-2	0.09-0.19	3.0-5.9	0.2-1.0	.28
	15-60	87-98	0-13	0-5	1.45-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02
Rodman-----	0-11	30-52	23-55	8-25	1.20-1.50	2-6	0.10-0.12	0.0-2.9	2.0-4.0	.20
	11-14	40-80	0-55	5-25	1.10-1.50	2-6	0.09-0.12	0.0-2.9	0.0-2.0	.24
	14-60	85-98	0-15	0-10	1.60-1.70	20-100	0.02-0.04	0.0-2.9	0.0-1.0	.02
973A: Hoopeston-----	0-17	53-75	7-39	8-18	1.35-1.70	2-6	0.12-0.15	0.0-2.9	2.0-3.0	.15
	17-40	50-82	2-40	10-18	1.45-1.70	2-6	0.12-0.17	0.0-2.9	0.2-1.0	.24
	40-60	72-98	0-27	1-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05
Selma-----	0-6	20-45	28-60	20-27	1.40-1.60	0.6-2	0.17-0.24	0.0-2.9	4.0-6.0	.24
	6-13	20-45	20-53	27-35	1.40-1.60	0.6-2	0.17-0.19	3.0-5.9	3.0-5.0	.17
	13-44	15-62	6-67	18-32	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-2.0	.32
	44-80	30-90	0-63	7-18	1.60-1.90	2-6	0.07-0.19	0.0-2.9	0.0-1.0	.24
1103A: Houghton, undrained	0-7	---	---	---	0.20-0.35	0.2-6	0.35-0.45	---	70-99	---
	7-60	---	---	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---
1107A: Sawmill, undrained, frequently flooded	0-28	3-15	58-70	27-35	1.25-1.40	0.6-2	0.19-0.22	3.0-5.9	4.0-7.0	.28
	28-42	5-20	45-68	27-35	1.30-1.45	0.6-2	0.17-0.20	3.0-5.9	1.0-3.5	.32
	42-60	5-25	40-70	25-35	1.35-1.50	0.6-2	0.17-0.20	3.0-5.9	0.2-2.0	.32

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
1330A: Peotone, undrained--	0-25	0-10	50-67	33-40	1.20-1.40	0.2-0.6	0.18-0.22	6.0-8.9	5.0-7.0	.24
	25-53	0-10	45-65	35-45	1.30-1.60	0.2-0.6	0.11-0.18	6.0-8.9	0.5-3.0	.37
	53-60	0-20	38-75	25-42	1.40-1.65	0.2-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.43
1409A: Aqunts, clayey, undrained-----	0-6	2-25	50-78	20-27	1.40-1.55	0.2-0.6	0.13-0.19	6.0-8.9	1.0-4.0	.49
	6-60	2-35	5-63	35-60	1.45-1.70	0.02-0.06	0.02-0.09	6.0-8.9	0.2-1.0	.32
1516A: Faxton, undrained, frequently flooded	0-20	3-20	47-70	27-33	1.20-1.40	0.6-2	0.18-0.24	3.0-5.9	4.0-7.0	.28
	20-30	4-20	48-78	18-32	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.5-2.0	.32
	30-60	---	---	---	---	2-20	---	---	---	---
1903A: Muskego-----	0-5	---	---	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---
	5-27	---	---	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---
	27-60	4-25	40-78	18-35	0.30-1.10	0.06-0.2	0.18-0.24	3.0-5.9	6.0-20	.32
Houghton-----	0-19	---	---	---	0.20-0.35	0.2-6	0.35-0.45	---	70-99	---
	19-60	---	---	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---
2023B: Alfic Udarents, clayey-----	0-7	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-3.0	.37
	7-35	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	35-46	5-25	27-60	35-48	1.40-1.70	0.06-0.6	0.10-0.16	3.0-5.9	0.2-1.0	.37
	46-55	5-25	30-68	27-45	1.50-1.70	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.37
	55-60	5-25	35-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
Urban land.										
Blount-----	0-6	5-20	53-77	18-27	1.25-1.45	0.6-2	0.19-0.24	0.0-2.9	2.0-3.0	.32
	6-10	5-20	53-80	15-27	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	0.2-1.0	.37
	10-23	5-25	27-60	35-48	1.40-1.70	0.06-0.6	0.10-0.16	3.0-5.9	0.2-1.0	.37
	23-34	5-25	30-68	27-45	1.50-1.70	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.37
	34-60	5-25	35-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
2049A: Orthents, loamy----	0-8	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.11-0.17	0.0-2.9	0.5-2.0	.43
	8-52	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.08-0.15	3.0-5.9	0.2-1.0	.43
	52-60	72-95	0-27	1-10	1.45-1.65	6-20	0.04-0.10	0.0-2.9	0.0-0.5	.10

Table 19.-Physical Properties of the Soils-Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	
2049A: Urban land.										
Watseka-----	0-10	72-88	0-26	2-13	1.35-1.55	6-20	0.10-0.12	0.0-2.9	1.0-2.5	.02
	10-32	72-95	0-27	1-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.10
	32-60	72-98	0-27	1-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05
2223B: Alflic Udarents, clayey-----	0-7	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-4.0	.37
	7-35	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	35-45	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.17	3.0-5.9	0.5-1.5	.37
	45-56	5-20	35-60	30-45	1.50-1.90	0.06-0.2	0.10-0.17	3.0-5.9	0.2-1.0	.37
	56-60	5-22	40-68	27-40	1.70-2.00	0.06-0.2	0.05-0.10	3.0-5.9	0.0-0.5	.43
Urban land.										
Varna-----	0-12	5-20	53-75	20-27	1.15-1.35	0.6-2	0.19-0.24	0.0-2.9	2.5-4.0	.24
	12-30	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.17	3.0-5.9	0.5-1.5	.37
	30-48	5-20	35-60	30-45	1.50-1.90	0.06-0.2	0.10-0.17	3.0-5.9	0.2-1.0	.37
	48-60	5-22	40-68	27-40	1.70-2.00	0.06-0.2	0.05-0.10	3.0-5.9	0.0-0.5	.43
2232A: Orthents, clayey----	0-8	2-20	40-58	40-55	1.50-1.65	0.02-0.06	0.08-0.14	6.0-8.9	0.5-3.0	.43
	8-42	2-30	10-60	35-60	1.60-1.90	0.02-0.06	0.03-0.10	6.0-8.9	0.2-1.0	.43
	42-52	2-15	40-63	35-45	1.30-1.50	0.2-0.6	0.15-0.18	6.0-8.9	0.5-1.5	.32
	52-60	5-20	40-65	30-40	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37
Urban land.										
Ashkum-----	0-12	1-15	45-64	35-40	1.20-1.45	0.2-0.6	0.18-0.21	6.0-8.9	3.0-7.0	.20
	12-29	2-15	40-63	35-45	1.30-1.50	0.2-0.6	0.15-0.18	6.0-8.9	0.5-2.5	.32
	29-54	5-20	40-65	30-40	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37
	54-60	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.07-0.15	3.0-5.9	0.0-0.5	.43
2530B: Alflic Udarents, clayey-----	0-7	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-3.0	.37
	7-35	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	35-42	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	42-55	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	55-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
Urban land.										

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	
2530B: Ozaukee-----	0-4	5-15	58-80	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	4-10	5-15	58-80	15-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37
	10-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	21-39	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	39-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
2530D: Alfic Udarents, clayey-----	0-6	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-3.0	.37
	6-35	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	35-42	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	42-55	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	55-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
Urban land.										
Ozaukee-----	0-4	5-15	58-80	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.0-3.0	.32
	4-9	5-15	58-80	15-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37
	9-34	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.08-0.16	3.0-5.9	0.2-0.5	.37
	34-39	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.07-0.15	3.0-5.9	0.1-0.5	.37
	39-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43
2571A: Orthents, loamy----	0-8	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.13-0.19	0.0-2.9	0.5-2.0	.43
	8-42	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.09-0.17	3.0-5.9	0.2-1.0	.43
	42-53	18-55	15-52	20-35	1.55-1.75	0.6-2	0.13-0.18	3.0-5.9	0.5-1.0	.32
	53-60	35-65	15-50	10-25	1.55-1.75	0.6-2	0.10-0.16	0.0-2.9	0.1-0.5	.28
Urban land.										
Whitaker-----	0-10	30-50	30-50	12-20	1.30-1.45	0.6-2	0.17-0.22	0.0-2.9	1.0-3.0	.32
	10-47	18-55	15-52	20-35	1.40-1.60	0.6-2	0.13-0.18	3.0-5.9	0.5-1.0	.32
	47-54	35-65	15-50	10-25	1.45-1.65	0.6-2	0.10-0.16	0.0-2.9	0.1-0.5	.28
	54-60	30-85	5-55	5-18	1.50-1.70	0.6-6	0.08-0.16	0.0-2.9	0.0-0.5	.24
2740A: Orthents, loamy-----	0-8	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.12-0.17	0.0-2.9	0.5-2.0	.43
	8-42	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.08-0.15	3.0-5.9	0.2-1.0	.43
	42-50	25-65	10-50	18-35	1.55-1.75	0.6-2	0.13-0.18	3.0-5.9	0.2-1.0	.32
	50-60	35-65	15-50	10-25	1.55-1.75	0.6-2	0.10-0.16	0.0-2.9	0.1-0.5	.28
Urban land.										

Table 19.-Physical Properties of the Soils-Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	Kw
2740A: Darroch-----	0-15	10-30	50-75	12-26	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	2.5-4.0	.24
	15-21	10-45	25-70	18-35	1.45-1.60	0.6-2	0.15-0.20	3.0-5.9	0.5-1.5	.32
	21-29	25-65	10-50	18-35	1.40-1.60	0.6-2	0.13-0.18	3.0-5.9	0.2-1.0	.32
	29-60	15-60	20-75	5-20	1.50-1.70	0.6-6	0.11-0.21	0.0-2.9	0.0-0.5	.28
2800A: Urban land.										
Psamments, nearly level-----	0-10	23-50	28-50	20-27	1.60-1.75	0.2-0.6	0.12-0.17	0.0-2.9	0.5-3.0	.43
	10-38	85-100	0-15	0-10	1.50-1.70	6-20	0.04-0.09	0.0-2.9	0.0-0.5	.02
	38-60	85-100	0-12	0-4	1.50-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.02
2800B: Urban land.										
Psamments, gently sloping-----	0-7	23-50	28-50	20-27	1.60-1.75	0.2-0.6	0.12-0.17	0.0-2.9	0.5-3.0	.43
	7-35	85-100	0-15	0-10	1.50-1.70	6-20	0.04-0.09	0.0-2.9	0.0-0.5	.02
	35-60	85-100	0-12	0-4	1.50-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.02
2811A: Urban land.										
Alfic Udarents, clayey-----	0-9	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-4.0	.37
	9-37	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	37-42	1-20	30-59	40-50	1.40-1.60	0.06-0.6	0.10-0.13	6.0-8.9	0.5-1.5	.32
	42-56	5-20	40-65	27-40	1.50-1.90	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	56-60	5-20	45-65	27-35	1.70-2.00	0.06-0.2	0.02-0.07	3.0-5.9	0.0-0.5	.43
2811B: Urban land.										
Alfic Udarents, clayey-----	0-7	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-4.0	.37
	7-35	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	35-39	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.16	6.0-8.9	0.5-1.5	.32
	39-54	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	54-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.02-0.07	0.0-2.9	0.0-0.5	.43

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	
2822A: Alfic Udarents, clayey-----	0-9	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-4.0	.37
	9-37	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	37-42	1-20	30-59	40-50	1.40-1.60	0.06-0.6	0.10-0.13	6.0-8.9	0.5-1.5	.32
	42-56	5-20	40-65	27-40	1.50-1.90	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	56-60	5-20	45-65	27-35	1.70-2.00	0.06-0.2	0.02-0.07	3.0-5.9	0.0-0.5	.43
Urban land.										
Elliott-----	0-6	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24
	6-11	2-15	50-71	27-35	1.20-1.40	0.6-2	0.17-0.22	3.0-5.9	2.5-4.0	.20
	11-16	1-20	30-59	40-50	1.40-1.60	0.06-0.6	0.10-0.13	6.0-8.9	0.5-1.5	.32
	16-41	5-20	40-65	27-40	1.50-1.90	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	41-60	5-20	45-65	27-35	1.70-2.00	0.06-0.2	0.02-0.07	3.0-5.9	0.0-0.5	.43
2822B: Alfic Udarents, clayey-----	0-7	2-20	40-68	30-40	1.40-1.55	0.06-0.2	0.08-0.14	6.0-8.9	0.5-4.0	.37
	7-35	2-30	20-63	35-50	1.45-1.70	0.06-0.2	0.03-0.10	6.0-8.9	0.2-1.0	.37
	35-39	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.16	6.0-8.9	0.5-1.5	.32
	39-54	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	54-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.02-0.07	0.0-2.9	0.0-0.5	.43
Urban land.										
Elliott-----	0-9	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24
	9-13	2-15	50-71	27-35	1.20-1.40	0.6-2	0.17-0.22	3.0-5.9	2.5-4.0	.20
	13-17	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.16	6.0-8.9	0.5-1.5	.32
	17-40	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.12-0.17	3.0-5.9	0.1-0.5	.37
	40-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.02-0.07	0.0-2.9	0.0-0.5	.43
3107A: Sawmill, frequently flooded-----	0-29	3-15	58-70	27-35	1.25-1.40	0.6-2	0.19-0.22	3.0-5.9	4.0-7.0	.28
	29-48	5-20	45-68	27-35	1.30-1.45	0.6-2	0.17-0.20	3.0-5.9	1.0-3.5	.32
	48-60	5-25	40-70	25-35	1.35-1.50	0.6-2	0.17-0.20	3.0-5.9	0.2-2.0	.32
3316A: Romeo-----	0-10	10-30	50-75	15-27	1.20-1.35	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.24
	10-60	---	---	---	---	0.06-0.6	---	---	---	---

Table 19.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion Kw
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct	
3451A: Lawson, frequently flooded-----	0-14	1-15	58-84	15-27	1.20-1.50	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.32
	14-33	1-15	55-84	15-30	1.20-1.50	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.32
	33-80	5-40	30-77	18-30	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.2-2.0	.49
4904A: Muskego, ponded-----	0-5	---	---	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---
	5-27	---	---	---	0.10-0.21	0.6-6	0.35-0.45	---	60-90	---
	27-60	4-25	40-78	18-35	0.30-1.10	0.06-0.2	0.18-0.24	3.0-5.9	6.0-20	.32
Peotone, ponded-----	0-25	0-10	50-67	33-40	1.20-1.40	0.2-0.6	0.18-0.22	6.0-8.9	5.0-7.0	.24
	25-53	0-10	45-65	35-45	1.30-1.60	0.2-0.6	0.11-0.18	6.0-8.9	0.5-3.0	.37
	53-60	0-20	38-75	25-42	1.40-1.65	0.2-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.43
M-W.										
Miscellaneous water										
W.										
Water										

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
23A:					
Blount-----	0-7	11-22	---	5.1-7.3	0
	7-13	8.0-20	7.1-15	5.1-7.3	0
	13-26	15-32	---	4.5-6.5	0
	26-32	8.3-21	---	6.1-7.8	0-25
	32-60	7.6-16	---	7.4-8.4	15-35
23B:					
Blount-----	0-6	11-22	---	5.1-7.3	0
	6-10	8.0-20	---	5.1-7.3	0
	10-23	15-32	---	4.5-6.5	0
	23-34	8.3-21	---	6.1-7.8	0-25
	34-60	7.6-16	---	7.4-8.4	15-35
49A:					
Watseka-----	0-10	2.6-13	---	5.6-7.3	0
	10-32	0.8-7.2	---	5.1-7.3	0
	32-60	0.8-7.2	---	5.6-7.3	0
54B:					
Plainfield-----	0-8	1.9-6.2	---	4.5-7.3	0
	8-32	0.1-3.3	---	4.5-7.3	0
	32-60	0.1-3.3	---	4.5-6.5	0
67A:					
Harpster-----	0-18	23-26	---	7.9-8.4	15-40
	18-41	22-27	---	7.4-8.4	5-40
	41-56	12-20	---	7.9-8.4	5-40
	56-60	12-20	---	7.9-8.4	10-40
69A:					
Milford-----	0-9	26-36	---	5.6-7.3	0
	9-22	28-36	---	5.6-7.3	0
	22-50	22-29	---	5.6-7.8	0-10
	50-60	4.0-18	---	6.6-8.4	0-30
91A:					
Swygert-----	0-12	20-31	---	5.6-7.3	0
	12-26	20-31	---	5.6-7.3	0
	26-51	10-25	---	7.4-8.4	2-20
	51-60	9.0-20	---	7.9-8.4	15-30
91B:					
Swygert-----	0-11	20-31	---	5.6-7.3	0
	11-23	20-31	---	5.6-7.3	0
	23-45	10-25	---	7.4-8.4	2-20
	45-60	9.0-20	---	7.9-8.4	15-30
103A:					
Houghton-----	0-11	132-189	---	5.1-7.8	0
	11-60	132-189	---	5.1-7.8	0
125A:					
Selma-----	0-6	18-23	---	6.1-7.8	0
	6-13	23-29	---	6.1-7.8	0
	13-44	13-26	---	6.1-8.4	0-20
	44-80	5.5-15	---	6.6-8.4	0-20

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
141A: Wesley-----	0-13	11-17	---	5.6-7.3	0
	13-38	1.0-11	---	5.6-7.3	0
	38-43	13-20	---	6.6-8.4	0-30
	43-60	13-20	---	6.6-8.4	0-30
146A: Elliott-----	0-6	13-21	---	5.6-7.3	0
	6-11	15-24	---	5.6-7.3	0
	11-16	16-25	---	6.1-7.3	0
	16-41	9.9-18	---	6.6-7.8	0-15
	41-60	7.6-14	---	7.4-8.4	10-35
146B: Elliott-----	0-9	13-21	---	5.6-7.3	0
	9-13	15-24	---	5.6-7.3	0
	13-17	15-23	---	6.1-7.3	0
	17-40	9.9-18	---	6.6-7.8	0-15
	40-60	7.6-14	---	7.4-8.4	10-35
152A: Drummer-----	0-14	24-35	---	5.6-7.8	0
	14-42	13-25	---	5.6-7.8	0
	42-50	9.0-21	---	6.1-8.4	0-20
	50-60	6.0-20	---	6.6-8.4	0-40
153A: Pella-----	0-12	24-33	---	6.1-7.8	0
	12-33	17-23	---	6.6-7.8	0-10
	33-42	9.0-19	---	7.4-8.4	5-30
	42-60	6.0-18	---	7.8-8.4	5-40
172A: Hoopeston-----	0-17	7.5-16	---	5.1-7.3	0
	17-40	8.3-15	---	5.1-7.8	0
	40-60	1.0-8.6	---	6.6-8.4	0-20
189A: Martinton-----	0-12	18-24	---	5.6-7.3	0
	12-39	18-24	---	5.6-7.8	0-10
	39-60	7.0-22	---	7.4-8.4	5-30
192A: Del Rey-----	0-4	9.5-26	---	4.5-7.3	0
	4-9	8.0-22	---	4.5-7.3	0
	9-33	9.6-31	12-22	4.5-7.8	0
	33-41	8.1-16	---	7.4-8.4	0-20
	41-60	6.7-14	---	7.4-8.4	5-40
201A: Gilford-----	0-22	12-21	---	5.6-7.3	0
	22-41	5.0-14	---	5.6-7.3	0
	41-60	1.0-6.0	---	6.6-8.4	0-30
206A: Thorp-----	0-11	20-28	---	5.1-7.3	0
	11-15	11-17	---	5.1-7.3	0
	15-41	14-23	---	5.1-7.3	0
	41-49	11-19	---	5.6-7.8	0-5
	49-60	3.0-19	---	6.1-8.4	0-20

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
223B:					
Varna-----	0-12	12-21	---	5.6-7.3	0
	12-30	15-27	---	5.6-7.3	0
	30-48	10-18	---	7.4-8.4	0-15
	48-60	7.6-15	---	7.9-8.4	5-30
223C2:					
Varna, eroded-----	0-9	14-20	---	5.6-7.3	0
	9-29	18-28	---	5.6-7.3	0
	29-50	15-25	---	7.4-8.4	0-15
	50-60	13-21	---	7.9-8.4	5-30
228A:					
Nappanee-----	0-5	12-20	---	5.1-7.3	0
	5-8	9.0-16	---	5.1-7.3	0
	8-26	23-32	---	5.6-7.8	0
	26-48	20-29	---	7.4-8.4	10-30
	48-75	15-24	---	7.9-8.4	15-35
228B:					
Nappanee-----	0-4	12-20	---	5.1-7.3	0
	4-9	9.0-16	---	5.1-7.3	0
	9-23	23-32	---	5.6-7.8	0
	23-46	20-29	---	7.4-8.4	10-30
	46-60	15-24	---	7.9-8.4	15-35
228C2:					
Nappanee, eroded-----	0-5	15-24	---	5.1-7.3	0
	5-8	13-20	---	5.1-7.3	0
	8-23	23-32	---	5.6-7.8	0
	23-27	20-29	---	7.4-8.4	10-30
	27-80	15-24	---	7.9-8.4	15-35
232A:					
Ashkum-----	0-12	22-38	---	5.6-7.3	0
	12-29	22-39	---	6.1-7.8	0-5
	29-54	13-24	---	6.6-7.8	0-15
	54-60	11-22	---	7.4-8.4	10-25
235A:					
Bryce-----	0-13	30-42	---	5.6-7.8	0
	13-45	23-33	---	6.1-7.8	0-5
	45-58	21-33	---	7.4-8.4	0-15
	58-66	12-34	---	7.4-8.4	10-25
241D3:					
Chatsworth, severely eroded-----	0-2	21-32	---	6.1-8.4	0-20
	2-22	18-31	---	6.6-8.4	0-25
	22-60	17-26	---	7.4-8.4	5-30
241E3:					
Chatsworth, severely eroded-----	0-7	21-32	---	6.1-8.4	0-20
	7-21	18-31	---	6.6-8.4	0-25
	21-60	17-26	---	7.4-8.4	5-30
290B:					
Warsaw-----	0-10	14-23	---	5.6-7.3	0
	10-24	11-22	---	5.1-6.5	0
	24-34	9.0-22	---	6.1-8.4	0-10
	34-60	1.0-7.0	---	7.9-8.4	10-30

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
293A:					
Andres-----	0-11	17-23	---	5.6-7.3	0
	11-36	13-19	---	6.1-7.8	0-5
	36-50	14-18	---	6.6-8.4	0-15
	50-60	11-18	---	7.4-8.4	15-30
294B:					
Symerton-----	0-15	10-22	---	5.6-7.3	0
	15-19	15-27	---	5.6-7.3	0
	19-35	8.0-22	---	5.6-7.8	0-5
	35-39	9.0-23	---	7.4-8.4	0-15
	39-60	9.0-23	---	7.4-8.4	5-30
295A:					
Mokena-----	0-5	15-24	---	5.6-7.3	0
	5-15	13-21	---	5.6-7.3	0
	15-38	13-22	---	6.1-7.8	0
	38-42	20-31	---	6.1-8.4	0-15
	42-60	20-31	---	7.4-8.4	5-30
298A:					
Beecher-----	0-9	17-24	---	5.1-7.3	0
	9-21	15-33	---	4.5-7.3	0
	21-37	13-24	---	6.1-7.8	0-15
	37-60	11-22	---	7.4-8.4	10-35
298B:					
Beecher-----	0-7	17-24	---	5.1-7.3	0
	7-24	15-33	---	4.5-7.3	0
	24-36	13-24	---	6.1-7.8	0-15
	36-60	11-22	---	7.4-8.4	10-35
318C2:					
Lorenzo, eroded-----	0-7	13-20	---	5.6-7.3	0
	7-16	10-20	---	5.6-7.8	0-35
	16-60	0.0-4.0	---	7.4-8.4	15-40
318D2:					
Lorenzo, eroded-----	0-8	13-20	---	5.6-7.3	0
	8-18	10-20	---	5.6-7.8	0-35
	18-60	0.0-4.0	---	7.4-8.4	15-40
320A:					
Frankfort-----	0-9	14-22	---	5.6-7.3	0
	9-14	15-20	---	5.6-7.3	0
	14-24	23-32	---	6.1-7.8	0
	24-34	20-29	---	7.4-8.4	5-15
	34-60	17-26	---	7.9-8.4	15-30
320B:					
Frankfort-----	0-8	14-22	---	5.6-7.3	0
	8-12	15-20	---	5.6-7.3	0
	12-32	23-32	---	6.1-7.8	0
	32-37	20-29	---	7.4-8.4	5-15
	37-60	17-26	---	7.9-8.4	15-30
320C2:					
Frankfort, eroded----	0-7	17-24	---	5.6-7.3	0
	7-28	23-32	---	6.1-7.8	0
	28-32	20-29	---	7.4-8.4	5-15
	32-60	17-26	---	7.9-8.4	15-30

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
327A:					
Fox-----	0-6	11-21	---	5.1-7.3	0
	6-9	9.0-17	---	5.1-7.3	0
	9-20	11-22	---	5.1-7.3	0
	20-27	10-22	---	5.6-7.8	0-30
	27-60	0.0-3.0	---	7.4-8.4	5-45
327B:					
Fox-----	0-4	11-21	---	5.1-7.3	0
	4-7	9.0-17	---	5.1-7.3	0
	7-13	11-22	---	5.1-7.3	0
	13-28	10-22	---	5.6-7.8	0-30
	28-60	0.0-3.0	---	7.4-8.4	5-45
327C2:					
Fox, eroded-----	0-4	13-21	---	5.1-7.3	0
	4-12	14-27	---	5.1-7.3	0
	12-24	13-27	---	5.6-7.8	0-30
	24-60	0.1-2.0	---	7.4-8.4	5-45
329A:					
Will-----	0-16	22-28	---	5.6-7.3	0
	16-24	14-24	---	6.1-8.4	0-20
	24-60	0.0-5.0	---	7.4-8.4	15-35
330A:					
Peotone-----	0-13	27-32	---	5.6-7.8	0
	13-50	26-35	---	6.1-7.8	0
	50-60	19-31	---	6.6-8.4	0-15
343A:					
Kane-----	0-11	16-23	---	5.6-7.3	0
	11-26	20-28	---	5.6-7.3	0
	26-34	12-24	---	6.1-7.8	0-15
	34-60	1.0-8.6	---	7.9-8.4	15-40
361B:					
Kidder-----	0-9	8.9-21	---	6.1-7.8	0
	9-31	11-16	---	5.6-7.8	0
	31-34	4.2-9.6	---	6.6-8.4	0-10
	34-60	3.1-8.0	---	7.4-8.4	10-30
361C2:					
Kidder, eroded-----	0-8	7.0-17	---	6.1-7.8	0
	8-30	10-17	---	5.6-7.8	0
	30-41	5.0-12	---	6.6-8.4	0-10
	41-60	3.0-9.0	---	7.4-8.4	10-30
361D2:					
Kidder, eroded-----	0-7	8.9-21	---	6.1-7.8	0
	7-23	11-16	---	5.6-7.8	0
	23-27	4.2-9.6	---	6.6-8.4	0-10
	27-60	3.1-8.0	---	7.4-8.4	10-30
361E2:					
Kidder, eroded-----	0-8	7.0-17	---	6.1-7.8	0
	8-29	10-17	---	5.6-7.8	0
	29-60	3.0-9.0	---	7.4-8.4	10-30

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
363B:					
Griswold-----	0-15	13-21	---	5.6-7.8	0
	15-34	16-25	---	5.6-7.8	0
	34-39	8.1-16	---	6.6-7.8	0-10
	39-60	4.1-13	---	7.4-8.4	10-40
363C2:					
Griswold, eroded-----	0-10	13-22	---	5.6-7.8	0
	10-24	12-21	---	5.6-7.8	0
	24-27	6.0-13	---	6.6-7.8	0-10
	27-60	3.0-10	---	7.4-8.4	10-40
367.					
Beaches					
369B:					
Waupecan-----	0-11	17-26	---	6.1-7.3	0
	11-39	16-23	---	5.6-7.3	0
	39-45	6.0-16	---	5.6-7.8	0-10
	45-60	0.0-8.0	---	7.4-8.4	0-30
370B:					
Saylesville-----	0-9	10-20	---	5.6-7.3	0
	9-21	18-24	---	4.5-7.8	0
	21-34	15-22	---	7.4-8.4	0-20
	34-60	11-18	---	7.9-8.4	5-40
392A:					
Urban land.					
Orthents, loamy, nearly level-----	0-8	12-15	---	5.6-7.8	0-10
	8-60	12-16	---	5.6-8.4	0-20
392B:					
Urban land.					
Orthents, loamy, gently sloping-----	0-7	12-15	---	5.6-7.8	0-10
	7-60	12-16	---	5.6-8.4	0-20
442A:					
Mundelein-----	0-17	18-26	---	5.6-7.3	0
	17-31	16-25	---	5.6-7.8	0-10
	31-42	9.0-19	---	6.1-8.4	0-20
	42-60	3.0-15	---	7.4-8.4	5-30
443B:					
Barrington-----	0-11	18-26	---	5.6-7.3	0
	11-32	16-25	---	5.6-7.8	0-10
	32-42	9.0-19	---	6.1-8.4	0-20
	42-60	3.0-15	---	7.4-8.4	5-30
494B:					
Kankakee-----	0-11	10-20	---	5.6-7.3	0
	11-14	11-23	---	5.6-7.8	0
	14-21	6.0-16	---	6.1-7.8	0-10
	21-60	3.0-13	---	7.4-8.4	0-20

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
503B:					
Rockton-----	0-11	16-25	---	5.6-7.3	0
	11-31	17-24	---	5.6-7.8	0
	31-35	20-38	---	5.6-7.8	0-5
	35-60	---	---	---	---
522B:					
Orthents, clayey, refuse substratum, undulating-----	0-8	17-22	---	5.6-7.8	0-10
	8-38	18-29	---	6.1-8.4	0-25
	38-60	16-27	---	6.6-8.4	0-25
522D:					
Orthents, clayey, refuse substratum, rolling-----	0-6	17-22	---	5.6-7.8	0-10
	6-37	18-29	---	6.1-8.4	0-25
	37-60	16-27	---	6.6-8.4	0-25
522F:					
Orthents, clayey, refuse substratum, steep-----	0-6	17-22	---	5.6-7.8	0-10
	6-34	18-29	---	6.1-8.4	0-25
	34-60	16-27	---	6.6-8.4	0-25
523A:					
Dunham-----	0-11	25-34	---	5.6-7.3	0
	11-31	16-26	---	5.6-7.3	0
	31-42	6.0-19	---	6.1-7.8	0-20
	42-60	1.0-7.0	---	7.4-8.4	15-40
526A:					
Grundelein-----	0-13	19-30	---	5.6-7.3	0
	13-29	16-26	---	5.6-7.3	0
	29-43	6.0-19	---	6.1-7.8	0-20
	43-60	1.0-7.0	---	7.4-8.4	15-40
529A:					
Selmass-----	0-16	9.9-15	---	5.6-7.3	0
	16-33	11-19	---	5.6-7.3	0
	33-51	5.1-11	---	6.1-7.8	0-10
	51-60	0.5-5.4	---	6.6-8.4	0-20
530B:					
Ozaukee-----	0-4	9.0-20	---	6.1-7.3	0
	4-10	7.0-16	---	6.1-7.3	0
	10-21	20-26	---	6.1-7.3	0
	21-39	15-22	---	7.4-8.4	0-20
	39-60	13-19	---	7.9-8.4	10-40
530C:					
Ozaukee-----	0-5	9.0-20	---	6.1-7.3	0
	5-10	7.0-16	---	6.1-7.3	0
	10-33	20-26	---	6.1-7.3	0
	33-38	15-22	---	7.4-8.4	0-20
	38-60	13-19	---	7.9-8.4	10-40

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
530C2:					
Ozaukee-----	0-6	9.0-18	---	6.1-7.3	0
	6-21	20-26	---	6.1-7.3	0
	21-28	15-22	---	7.4-8.4	0-20
	28-60	13-19	---	7.9-8.4	10-40
530D:					
Ozaukee-----	0-4	9.0-20	---	6.1-7.3	0
	4-9	7.0-16	---	6.1-7.3	0
	9-34	20-26	---	6.1-7.3	0
	34-39	15-22	---	7.4-8.4	0-20
	39-60	13-19	---	7.9-8.4	10-40
530D2:					
Ozaukee-----	0-6	9.0-18	---	6.1-7.3	0
	6-20	20-26	---	6.1-7.3	0
	20-28	15-22	---	7.4-8.4	0-20
	28-60	13-19	---	7.9-8.4	10-40
530D3:					
Ozaukee-----	0-9	14-22	---	6.1-7.3	0
	9-21	20-26	---	6.1-7.3	0
	21-25	15-22	---	7.4-8.4	0-20
	25-60	13-19	---	7.9-8.4	10-40
530E:					
Ozaukee-----	0-4	9.0-20	---	6.1-7.3	0
	4-8	7.0-16	---	6.1-7.3	0
	8-20	20-26	---	6.1-7.3	0
	20-25	15-22	---	7.4-8.4	0-20
	25-60	13-19	---	7.9-8.4	10-40
530F:					
Ozaukee-----	0-5	9.0-20	---	6.1-7.3	0
	5-29	20-26	---	6.1-7.3	0
	29-36	15-22	---	7.4-8.4	0-20
	36-60	13-19	---	7.9-8.4	10-40
531B:					
Markham-----	0-8	14-22	---	5.6-7.3	0
	8-21	17-27	---	5.1-7.3	0
	21-32	15-24	---	7.4-8.4	0-10
	32-60	13-20	---	7.9-8.4	5-30
531C2:					
Markham, eroded-----	0-8	14-20	---	5.6-7.3	0
	8-20	17-27	---	5.1-7.3	0
	20-29	15-24	---	7.4-8.4	0-10
	29-60	13-20	---	7.9-8.4	5-30
531D2:					
Markham, eroded-----	0-7	14-20	---	5.6-7.3	0
	7-20	17-27	---	5.1-7.3	0
	20-30	15-24	---	7.4-8.4	0-10
	30-60	13-20	---	7.9-8.4	5-30
533.					
Urban land					

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
534A: Urban land.					
Orthents, clayey, nearly level-----	0-8 8-60	21-29 18-32	--- ---	5.6-7.8 6.1-8.4	0-10 0-25
534B: Urban land.					
Orthents, clayey, gently sloping-----	0-7 7-60	21-29 18-32	--- ---	5.6-7.8 6.1-8.4	0-10 0-25
535B: Orthents, undulating, stony---	0-6 6-60	10-22 8.0-18	--- ---	7.4-8.4 7.4-8.4	5-20 10-30
541B: Graymont-----	0-12 12-33 33-38 38-60	19-26 15-25 12-23 13-20	--- --- --- ---	6.1-7.3 5.6-7.3 6.6-7.8 7.4-8.4	0 0 0-10 5-30
560D2: St. Clair, eroded----	0-5 5-8 8-22 22-37 37-65	15-24 13-20 23-32 20-29 17-29	--- --- --- --- ---	5.1-7.3 5.1-7.3 5.6-7.8 7.4-8.4 7.9-8.4	0 0 0 0-20 15-35
571A: Whitaker-----	0-10 10-47 47-54 54-60	6.5-11 11-19 5.2-13 2.6-9.6	--- --- --- ---	5.6-7.3 5.1-7.3 5.6-7.8 6.1-8.4	0 0 0 0-25
614A: Chenoa-----	0-12 12-32 32-36 36-60	27-40 22-35 13-24 11-22	--- --- --- ---	6.1-7.3 5.6-7.3 6.6-8.4 7.4-8.4	0 0 0-15 15-30
696A: Zurich-----	0-5 5-10 10-29 29-36 36-60	11-22 10-18 16-23 6.0-18 3.0-16	--- --- --- --- ---	5.6-7.3 5.6-7.3 5.1-7.8 6.6-8.4 7.4-8.4	0 0 0-10 0-20 5-30
696B: Zurich-----	0-5 5-9 9-28 28-38 38-64	11-22 10-18 16-23 6.0-18 3.0-16	--- --- --- --- ---	5.6-7.3 5.6-7.3 5.1-7.8 6.6-8.4 7.4-8.4	0 0 0-10 0-20 5-30

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
696C2:					
Zurich, eroded-----	0-10	11-20	---	5.6-7.3	0
	10-27	16-23	---	5.1-7.8	0-10
	27-40	6.0-18	---	6.6-8.4	0-20
	40-60	3.0-16	---	7.4-8.4	5-30
696D2:					
Zurich, eroded-----	0-6	11-20	---	5.6-7.3	0
	6-25	16-23	---	5.1-7.8	0-10
	25-35	6.0-18	---	6.6-8.4	0-20
	35-60	3.0-16	---	7.4-8.4	5-30
697A:					
Wauconda-----	0-9	13-24	---	5.6-7.3	0
	9-14	10-18	---	5.6-7.3	0
	14-30	15-23	---	5.6-7.8	0-5
	30-38	6.0-18	---	6.6-8.4	0-20
	38-60	3.0-13	---	7.4-8.4	5-30
698B:					
Grays-----	0-8	13-24	---	5.6-7.3	0
	8-11	10-18	---	5.6-7.3	0
	11-34	15-23	---	5.6-7.8	0-5
	34-42	5.0-16	---	6.6-8.4	0-20
	42-60	3.0-13	---	7.4-8.4	5-30
740A:					
Darroch-----	0-15	11-22	---	5.6-7.3	0
	15-21	15-28	---	5.6-7.3	0
	21-29	14-28	---	5.6-7.3	0
	29-60	4.1-16	---	7.4-8.4	10-40
741B:					
Oakville-----	0-7	0.0-8.2	0.1-4.9	4.5-7.3	0
	7-40	0.0-7.4	0.0-2.9	4.5-7.3	0
	40-60	0.0-7.4	---	4.5-7.3	0
741D:					
Oakville-----	0-6	1.0-4.0	---	4.5-7.3	0
	6-30	0.0-2.0	---	4.5-7.3	0
	30-60	0.0-2.0	---	4.5-7.3	0
800A:					
Psammments, nearly level-----	0-10	14-20	---	5.6-7.8	0-10
	10-38	0.1-7.4	---	5.6-7.3	0
	38-60	0.1-3.3	---	5.6-7.8	0-15
802A:					
Orthents, loamy, nearly level-----	0-8	12-15	---	5.6-7.8	0-10
	8-60	12-16	---	5.6-8.4	0-20
802B:					
Orthents, loamy, undulating-----	0-7	12-15	---	5.6-7.8	0-10
	7-60	12-16	---	5.6-8.4	0-20
802D:					
Orthents, loamy, rolling-----	0-6	12-15	---	5.6-7.8	0-10
	6-60	12-16	---	5.6-8.4	0-20

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
805A: Orthents, clayey, nearly level-----	0-8 8-60	21-29 18-32	--- ---	5.6-7.8 6.1-8.4	0-10 0-25
805B: Orthents, clayey, undulating-----	0-7 7-60	21-29 18-32	--- ---	5.6-7.8 6.1-8.4	0-10 0-25
805D: Orthents, clayey, rolling-----	0-6 6-60	21-29 18-32	--- ---	5.6-7.8 6.1-8.4	0-10 0-25
807A: Orthents, loamy-skeletal, nearly level-----	0-9 9-60	12-15 12-16	--- ---	7.4-8.4 7.4-8.4	5-15 5-25
807B: Orthents, loamy-skeletal, undulating-----	0-6 6-60	12-15 12-16	--- ---	7.4-8.4 7.4-8.4	5-15 5-25
811A: Alfic Udarents, clayey-----	0-9 9-37 37-42 42-56 56-60	16-22 18-27 16-25 9.9-18 7.6-14	--- --- --- --- ---	6.1-7.8 6.1-7.8 6.1-7.3 6.6-7.8 7.4-8.4	0-10 0-15 0 0-15 10-35
811B: Alfic Udarents, clayey-----	0-7 7-35 35-39 39-54 54-60	16-22 18-27 15-23 9.9-18 7.6-14	--- --- --- --- ---	6.1-7.8 6.1-7.8 6.1-7.3 6.6-7.8 7.4-8.4	0-10 0-15 0 0-15 10-35
811D: Alfic Udarents, clayey-----	0-6 6-33 33-41 41-51 51-60	16-22 18-27 18-27 16-24 14-21	--- --- --- --- ---	6.1-7.8 6.1-7.8 5.6-7.3 7.4-8.4 7.9-8.4	0-10 0-15 0 0-15 5-30
822A: Alfic Udarents, clayey-----	0-9 9-37 37-42 42-56 56-60	16-22 18-27 16-25 9.9-18 7.6-14	--- --- --- --- ---	6.1-7.8 6.1-7.8 6.1-7.3 6.6-7.8 7.4-8.4	0-10 0-15 0 0-15 10-35

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
822A:					
Elliott-----	0-6	13-21	---	5.6-7.3	0
	6-11	15-24	---	5.6-7.3	0
	11-16	16-25	---	6.1-7.3	0
	16-41	9.9-18	---	6.6-7.8	0-15
	41-60	7.6-14	---	7.4-8.4	10-35
822B:					
Alfic Udarents, clayey-----	0-7	16-22	---	6.1-7.8	0-10
	7-35	18-27	---	6.1-7.8	0-15
	35-39	15-23	---	6.1-7.3	0
	39-54	9.9-18	---	6.6-7.8	0-15
	54-60	7.6-14	---	7.4-8.4	10-35
Elliott-----	0-9	13-21	---	5.6-7.3	0
	9-13	15-24	---	5.6-7.3	0
	13-17	15-23	---	6.1-7.3	0
	17-40	9.9-18	---	6.6-7.8	0-15
	40-60	7.6-14	---	7.4-8.4	10-35
830.					
Landfills					
848B:					
Drummer-----	0-14	24-35	---	5.6-7.8	0
	14-42	13-25	---	5.6-7.8	0
	42-50	9.0-21	---	6.1-8.4	0-20
	50-60	6.0-20	---	6.6-8.4	0-40
Barrington-----	0-11	18-26	---	5.6-7.3	0
	11-32	16-25	---	5.6-7.8	0-10
	32-42	9.0-19	---	6.1-8.4	0-20
	42-60	3.0-15	---	7.4-8.4	5-30
Mundelein-----	0-17	18-26	---	5.6-7.3	0
	17-31	16-25	---	5.6-7.8	0-10
	31-42	9.0-19	---	6.1-8.4	0-20
	42-60	3.0-15	---	7.4-8.4	5-30
849A:					
Milford-----	0-9	26-36	---	5.6-7.3	0
	9-22	28-36	---	5.6-7.3	0
	22-50	22-29	---	5.6-7.8	0-10
	50-60	4.0-18	---	6.6-8.4	0-30
Martinton-----	0-12	18-24	---	5.6-7.3	0
	12-39	18-24	---	5.6-7.8	0-10
	39-60	7.0-22	---	7.4-8.4	5-30
854B:					
Markham-----	0-8	14-22	---	5.6-7.3	0
	8-21	17-27	---	5.1-7.3	0
	21-32	15-24	---	7.4-8.4	0-10
	32-60	13-20	---	7.9-8.4	5-30
Ashkum-----	0-12	22-38	---	5.6-7.3	0
	12-29	22-39	---	6.1-7.8	0-5
	29-54	13-24	---	6.6-7.8	0-15
	54-60	11-22	---	7.4-8.4	10-25

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
854B: Beecher-----	0-7	17-24	---	5.1-7.3	0
	7-24	15-33	---	4.5-7.3	0
	24-36	13-24	---	6.1-7.8	0-15
	36-60	11-22	---	7.4-8.4	10-35
862. Pits, sand					
863. Pits, clay					
864. Pits, quarry					
865. Pits, gravel					
903A: Muskego-----	0-5	119-173	---	5.6-7.3	0
	5-36	119-178	---	5.6-7.8	0
	36-80	18-38	---	6.6-8.4	0-60
Houghton-----	0-19	127-189	---	5.1-7.8	0
	19-60	149-222	---	5.1-7.8	0
925B: Frankfort-----	0-8	14-22	---	5.6-7.3	0
	8-12	15-20	---	5.6-7.3	0
	12-32	23-32	---	6.1-7.8	0
	32-37	20-29	---	7.4-8.4	5-15
	37-60	17-26	---	7.9-8.4	15-30
Bryce-----	0-13	30-42	---	5.6-7.8	0
	13-45	23-33	---	6.1-7.8	0-5
	45-58	21-33	---	7.4-8.4	0-15
	58-66	12-34	---	7.4-8.4	10-25
969E2: Casco, eroded-----	0-5	8.0-19	---	5.6-7.3	0
	5-19	11-23	---	5.6-7.8	0-5
	19-60	0.0-4.0	---	7.4-8.4	1-25
Rodman, eroded-----	0-6	8.0-19	---	6.6-7.8	0-15
	6-10	2.0-17	---	6.6-7.8	0-25
	10-60	0.0-7.0	---	7.4-8.4	10-45
969F: Casco-----	0-4	8.0-19	---	5.6-7.3	0
	4-15	11-23	---	5.6-7.8	0-5
	15-60	0.0-4.0	---	7.4-8.4	1-25
Rodman-----	0-11	8.0-21	---	6.6-7.8	0-15
	11-14	2.0-17	---	6.6-7.8	0-25
	14-60	0.0-7.0	---	7.4-8.4	10-45
973A: Hoopeston-----	0-17	7.5-16	---	5.1-7.3	0
	17-40	8.3-15	---	5.1-7.8	0
	40-60	1.0-8.6	---	6.6-8.4	0-20

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
973A:					
Selma-----	0-6	18-23	---	6.1-7.8	0
	6-13	23-29	---	6.1-7.8	0
	13-44	13-26	---	6.1-8.4	0-20
	44-80	5.5-15	---	6.6-8.4	0-20
1103A:					
Houghton, undrained--	0-7	149-222	---	5.1-7.8	0
	7-60	149-222	---	5.1-7.8	0
1107A:					
Sawmill, undrained, frequently flooded--	0-28	23-35	---	6.1-7.3	0
	28-42	18-30	---	6.6-7.8	0-5
	42-60	15-27	---	6.6-8.4	0-20
1330A:					
Peotone, undrained---	0-25	30-38	---	5.6-7.8	0
	25-53	22-33	---	6.1-7.8	0
	53-60	15-26	---	6.6-8.4	0-15
1409A:					
Aquents, clayey, undrained-----	0-6	11-15	---	6.6-8.4	0-20
	6-60	18-32	---	7.4-8.4	5-25
1516A:					
Faxon, undrained, frequently flooded--	0-20	23-33	---	6.6-7.8	0
	20-30	11-23	---	6.6-7.8	0-10
	30-60	---	---	---	---
1903A:					
Muskego, undrained---	0-5	119-173	---	5.6-7.3	0
	5-27	124-199	---	5.6-7.8	0
	27-60	18-38	---	6.6-8.4	0-60
Houghton, undrained--	0-19	149-222	---	5.1-7.8	0
	19-60	149-222	---	5.1-7.8	0
2023B:					
Alfic Udarents, clayey-----	0-7	16-22	---	6.1-7.8	0-10
	7-35	18-27	---	6.1-7.8	0-15
	35-46	15-32	---	4.5-6.5	0
	46-55	8.3-21	---	6.1-7.8	0-25
	55-60	7.6-16	---	7.4-8.4	15-35
Urban land.					
Blount-----	0-6	11-22	---	5.1-7.3	0
	6-10	8.0-20	---	5.1-7.3	0
	10-23	15-32	---	4.5-6.5	0
	23-34	8.3-21	---	6.1-7.8	0-25
	34-60	7.6-16	---	7.4-8.4	15-35
2049A:					
Orthents, loamy-----	0-8	12-15	---	5.6-7.8	0-10
	8-52	12-16	---	5.6-8.4	0-20
	52-60	0.8-7.2	---	5.1-7.3	0

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
2049A: Urban land.					
Watseka-----	0-10	2.6-13	---	5.6-7.3	0
	10-32	0.8-7.2	---	5.1-7.3	0
	32-60	0.8-7.2	---	5.6-7.3	0
2223B: Alfic Udarents, clayey-----	0-7	16-22	---	6.1-7.8	0-10
	7-35	18-27	---	6.1-7.8	0-15
	35-45	15-27	---	5.6-7.3	0
	45-56	10-18	---	7.4-8.4	0-15
	56-60	7.6-15	---	7.9-8.4	5-30
Urban land.					
Varna-----	0-12	12-21	---	5.6-7.3	0
	12-30	15-27	---	5.6-7.3	0
	30-48	10-18	---	7.4-8.4	0-15
	48-60	7.6-15	---	7.9-8.4	5-30
2232A: Orthents, clayey-----	0-8	21-30	---	5.6-7.8	0-10
	8-42	18-32	---	6.1-8.4	0-25
	42-52	18-24	---	6.1-7.8	0-5
	52-60	16-21	---	6.6-7.8	0-15
Urban land.					
Ashkum-----	0-12	22-38	---	5.6-7.3	0
	12-29	22-39	---	6.1-7.8	0-5
	29-54	13-24	---	6.6-7.8	0-15
	54-60	11-22	---	7.4-8.4	10-25
2530B: Alfic Udarents, clayey-----	0-7	16-22	---	6.1-7.8	0-10
	7-35	18-27	---	6.1-7.8	0-15
	35-42	20-26	---	6.1-7.3	0
	42-55	15-22	---	7.4-8.4	0-20
	55-60	13-19	---	7.9-8.4	10-40
Urban land.					
Ozaukee-----	0-4	9.0-20	---	6.1-7.3	0
	4-10	7.0-16	---	6.1-7.3	0
	10-21	20-26	---	6.1-7.3	0
	21-39	15-22	---	7.4-8.4	0-20
	39-60	13-19	---	7.9-8.4	10-40
2530D: Alfic Udarents, clayey-----	0-6	16-22	---	6.1-7.8	0-10
	6-35	18-27	---	6.1-7.8	0-15
	35-42	20-26	---	6.1-7.3	0
	42-55	15-22	---	7.4-8.4	0-20
	55-60	13-19	---	7.9-8.4	10-40
Urban land.					

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
2530D:					
Ozaukee-----	0-4	9.0-20	---	6.1-7.3	0
	4-9	7.0-16	---	6.1-7.3	0
	9-34	20-26	---	6.1-7.3	0
	34-39	15-22	---	7.4-8.4	0-20
	39-60	13-19	---	7.9-8.4	10-40
2571A:					
Orthents, loamy-----	0-8	12-15	---	5.6-7.8	0-10
	8-42	12-16	---	5.6-8.4	0-20
	42-53	11-19	---	5.1-7.3	0
	53-60	5.2-13	---	5.6-7.8	0
Urban land.					
Whitaker-----	0-10	6.5-11	---	5.6-7.3	0
	10-47	11-19	---	5.1-7.3	0
	47-54	5.2-13	---	5.6-7.8	0
	54-60	2.6-9.6	---	6.1-8.4	0-25
2740A:					
Orthents, loamy-----	0-8	12-15	---	5.6-7.8	0-10
	8-42	12-16	---	5.6-8.4	0-20
	42-50	9.4-19	---	5.6-7.8	0
	50-60	5.2-13	---	7.4-8.4	10-30
Urban land.					
Darroch-----	0-15	11-22	---	5.6-7.3	0
	15-21	15-28	---	5.6-7.3	0
	21-29	14-28	---	5.6-7.3	0
	29-60	4.1-16	---	7.4-8.4	10-40
2800A:					
Urban land.					
Psamments, nearly level-----	0-10	14-20	---	5.6-7.8	0-10
	10-38	0.1-7.4	---	5.6-7.3	0
	38-60	0.1-3.3	---	5.6-7.8	0-15
2800B:					
Urban land.					
Psamments, gently sloping-----	0-7	14-20	---	5.6-7.8	0-10
	7-35	0.1-7.4	---	5.6-7.3	0
	35-60	0.1-3.3	---	5.6-7.8	0-15
2811A:					
Urban land.					
Alfic Udarents, clayey-----	0-9	16-22	---	6.1-7.8	0-10
	9-37	18-27	---	6.1-7.8	0-15
	37-42	16-25	---	6.1-7.3	0
	42-56	9.9-18	---	6.6-7.8	0-15
	56-60	7.6-14	---	7.4-8.4	10-35

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
2811B: Urban land.					
Alfic Udarents, clayey-----	0-7	16-22	---	6.1-7.8	0-10
	7-35	18-27	---	6.1-7.8	0-15
	35-39	15-23	---	6.1-7.3	0
	39-54	9.9-18	---	6.6-7.8	0-15
	54-60	7.6-14	---	7.4-8.4	10-35
2822A: Alfic Udarents, clayey-----	0-9	16-22	---	6.1-7.8	0-10
	9-37	18-27	---	6.1-7.8	0-15
	37-42	16-25	---	6.1-7.3	0
	42-56	9.9-18	---	6.6-7.8	0-15
	56-60	7.6-14	---	7.4-8.4	10-35
Urban land.					
Elliott-----	0-6	13-21	---	5.6-7.3	0
	6-11	15-24	---	5.6-7.3	0
	11-16	16-25	---	6.1-7.3	0
	16-41	9.9-18	---	6.6-7.8	0-15
	41-60	7.6-14	---	7.4-8.4	10-35
2822B: Alfic Udarents, clayey-----	0-7	16-22	---	6.1-7.8	0-10
	7-35	18-27	---	6.1-7.8	0-15
	35-39	15-23	---	6.1-7.3	0
	39-54	9.9-18	---	6.6-7.8	0-15
	54-60	7.6-14	---	7.4-8.4	10-35
Urban land.					
Elliott-----	0-9	13-21	---	5.6-7.3	0
	9-13	15-24	---	5.6-7.3	0
	13-17	15-23	---	6.1-7.3	0
	17-40	9.9-18	---	6.6-7.8	0-15
	40-60	7.6-14	---	7.4-8.4	10-35
3107A: Sawmill, frequently flooded-----	0-29	23-35	---	6.1-7.3	0
	29-48	18-30	---	6.6-7.8	0-5
	48-60	15-27	---	6.6-8.4	0-20
3316A: Romeo-----	0-10	15-26	---	6.1-8.4	0-20
	10-60	---	---	---	---
3451A: Lawson, frequently flooded-----	0-14	13-23	---	6.1-7.8	0
	14-33	13-25	---	6.1-7.8	0
	33-80	14-25	---	6.1-7.8	0

Soil Survey of Cook County, Illinois

Table 20.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
4904A:					
Muskego, ponded-----	0-5	119-173	---	5.6-7.3	0
	5-27	124-199	---	5.6-7.8	0
	27-60	18-38	---	6.6-8.4	0-60
Peotone, ponded-----	0-25	30-38	---	5.6-7.8	0
	25-53	22-33	---	6.1-7.8	0
	53-60	15-26	---	6.6-8.4	0-15
M-W.					
Miscellaneous water					
W.					
Water					

Table 21.—Water Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the concern or that data were not estimated)

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
23A: Blount-----	C/D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.5-4.5 >6.0	Perched ---	---	---	None None
23B: Blount-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.5-4.5 >6.0	Perched ---	---	---	None None
49A: Watseka-----	A/D	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	---	---	None None
54B: Plainfield-----	A	Jan-Dec	>6.0	>6.0	---	---	---	None
67A: Harpster-----	B/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
69A: Milford-----	C/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
91A: Swygert-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	2.9-5.1 >6.0	Perched ---	---	---	None None
91B: Swygert-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	2.9-5.1 >6.0	Perched ---	---	---	None None
103A: Houghton-----	A/D	Jan-Jun Jul-Oct Nov-Dec	0.0-1.0 >6.0 0.0-1.0	>6.0 >6.0 >6.0	Apparent --- Apparent	0.0-1.0 --- 0.0-1.0	Brief --- Brief	Frequent None Frequent
125A: Selma-----	B/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent ---
141A: Wesley-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	2.0-4.9 >6.0	Perched ---	---	---	None None

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
146A: Elliott-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	1.7-4.3 >6.0	Perched ---	---	---	None None
146B: Elliott-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	1.7-4.3 >6.0	Perched ---	---	---	None None
152A: Drummer-----	B/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
153A: Pella-----	B/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
172A: Hoopeston-----	A/D	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	---	---	None None
189A: Martinton-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	---	---	None None
192A: Del Rey-----	C/D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-4.5 >6.0	Perched ---	---	---	None None
201A: Gilford-----	A/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent ---
206A: Thorp-----	C/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent ---
223B: Varna-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-5.5 >6.0	Perched ---	---	---	None None None
223C2: Varna-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-5.5 >6.0	Perched ---	---	---	None None None

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
228A: Nappanee-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-5.5 >6.0	Perched ---	---	---	None None
228B: Nappanee-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-5.5 >6.0	Perched ---	---	---	None None
228C2: Nappanee-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-5.5 >6.0	Perched ---	---	---	None None
232A: Ashkum-----	C/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
235A: Bryce-----	C/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
241D3: Chatsworth-----	D	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---	---	---	None None None
241E3: Chatsworth-----	D	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---	---	---	None None None
290B: Warsaw-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
293A: Andres-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	3.0-5.5 >6.0	Perched ---	---	---	None None
294B: Symerton-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.5-4.7 >6.0	--- Perched ---	---	---	None None None
295A: Mokena-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	2.5-5.5 >6.0	Perched ---	---	---	None None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
298A: Beecher-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-4.3 >6.0	Perched ---	---	---	None None
298B: Beecher-----	C/D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-4.3 >6.0	Perched ---	---	---	None None
318C2: Lorenzo-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
318D2: Lorenzo-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
320A: Frankfort-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-4.0 >6.0	Perched ---	---	---	None None
320B: Frankfort-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-4.0 >6.0	Perched ---	---	---	None None
320C2: Frankfort-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-4.0 >6.0	Perched ---	---	---	None None
327A: Fox-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
327B: Fox-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
327C2: Fox-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
329A: Will-----	B/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
330A: Peotone-----	C/D	Jan-Jun Jul-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
343A: Kane-----	B/D	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	---	---	None None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
361B: Kidder-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
361C2: Kidder-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
361D2: Kidder-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
361E2: Kidder-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
363B: Griswold-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
363C2: Griswold-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
367. Beaches								
369B: Waupecan-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
370B: Saylesville-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 >6.0 >6.0	--- Apparent ---	--- --- ---	--- --- ---	None None None
392A: Urban land.								
Orthents-----	C	Jan Feb-Apr May-Dec	>6.0 3.5-5.0 >6.0	>6.0 3.7-5.5 >6.0	--- Perched ---	--- --- ---	--- --- ---	None None None
392B: Urban land.								
Orthents-----	C	Jan Feb-Apr May-Dec	>6.0 3.5-5.0 >6.0	>6.0 3.7-5.5 >6.0	--- Perched ---	--- --- ---	--- --- ---	None None None
442A: Mundelein-----	B/D	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	--- ---	--- ---	None None

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
443B: Barrington-----	C	Jan Feb-Apr May-Dec	>6.0	>6.0	---	---	---	None None None
494B: Kankakee-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
503B: Rockton-----	C	Jan-Dec	>6.0	>6.0	---	---	---	None
522B: Orhents-----	D	Jan-Dec	>6.0	>6.0	---	---	---	None
522D: Orhents-----	D	Jan-Dec	>6.0	>6.0	---	---	---	None
522F: Orhents-----	D	Jan-Dec	>6.0	>6.0	---	---	---	None
523A: Dunham-----	B/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0	Apparent	0.0-0.5 ---	Brief ---	Frequent None
526A: Grundelein-----	B/D	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0	Apparent	---	---	None None
529A: Selmass-----	B/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0	Apparent	0.0-0.5 ---	Brief ---	Frequent None
530B: Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.3 >6.0	---	---	---	None None None
530C: Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.3 >6.0	---	---	---	None None None
530C2: Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.3 >6.0	---	---	---	None None None

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
530D: Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0	>6.0	---	---	---	None None None
530D2: Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0	>6.0	---	---	---	None None None
530D3: Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0	>6.0	---	---	---	None None None
530E: Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0	>6.0	---	---	---	None None None
530F: Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0	>6.0	---	---	---	None None None
531B: Markham-----	C	Jan Feb-Apr May-Dec	>6.0	>6.0	---	---	---	None None None
531C2: Markham-----	C	Jan Feb-Apr May-Dec	>6.0	>6.0	---	---	---	None None None
531D2: Markham-----	C	Jan Feb-Apr May-Dec	>6.0	>6.0	---	---	---	None None None
533. Urban land								

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
534A: Urban land.								
Orthents-----	D	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---	--- --- ---	---	None None None
534B: Urban land.								
Orthents-----	D	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---	--- --- ---	---	None None None
535B: Orthents-----	B	Jan Feb-Apr May-Dec	>6.0 4.0-6.0 >6.0	>6.0 >6.0 >6.0	--- Apparent ---	--- --- ---	---	None None None
541B: Graymont-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.3 >6.0	--- Perched ---	--- --- ---	---	None None None
560D2: St. Clair-----	D	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.5 >6.0	--- Perched ---	--- --- ---	---	None None None
571A: Whitaker-----	B/D	Jan-May Jun-Dec	0.5-2.0 >6.0	>6.0 >6.0	Apparent ---	--- ---	---	None None
614A: Chenoa-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	2.1-4.3 >6.0	Perched ---	--- ---	---	None None
696A: Zurich-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 >6.0 >6.0	--- Apparent ---	--- --- ---	---	None None None
696B: Zurich-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 >6.0 >6.0	--- Apparent ---	--- --- ---	---	None None None

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
696C2: Zurich-----	C							
		Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None
696D2: Zurich-----	C							
		Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None
697A: Wauconda-----	B/D							
		Jan-May	0.5-2.0	>6.0	Apparent	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None
698B: Grays-----	C							
		Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None
740A: Darroch-----	B/D							
		Jan-May	1.0-2.0	>6.0	Apparent	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None
741B: Oakville-----	A							
		Jan-Dec	>6.0	>6.0	---	---	---	None
741D: Oakville-----	A							
		Jan-Dec	>6.0	>6.0	---	---	---	None
800A: Psammets-----	C							
		Jan-Dec	>6.0	>6.0	---	---	---	None
802A: Orthents-----	C							
		Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	3.5-5.0	3.7-5.5	Perched	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None
802B: Orthents-----	C							
		Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	3.5-5.0	3.7-5.5	Perched	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None
802D: Orthents-----	C							
		Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	3.5-5.0	3.7-5.5	Perched	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
805A: Orthents-----	D	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 2.2-4.0 >6.0	>6.0 2.2-4.0 >6.0	Perched Perched ---	---	---	None None None
805B: Orthents-----	D	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 2.2-4.0 >6.0	>6.0 2.2-4.0 >6.0	Perched Perched ---	---	---	None None None
805D: Orthents-----	D	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 2.2-4.0 >6.0	>6.0 2.2-4.0 >6.0	Perched Perched ---	---	---	None None None
807A: Orthents-----	C	Jan-Dec	>6.0	>6.0	---	---	---	None
807B: Orthents-----	C	Jan-Dec	>6.0	>6.0	---	---	---	None
811A: Alfic Udarents--	D	Jan Feb-Apr May-Dec	>6.0 2.5-3.5 4.0-6.0 >6.0	>6.0 4.0-6.0 >6.0	Perched Perched ---	---	---	None None None
811B: Alfic Udarents--	D	Jan Feb-Apr May-Dec	>6.0 2.5-3.5 4.0-6.0 >6.0	>6.0 4.0-6.0 >6.0	Perched Perched ---	---	---	None None None
811D: Alfic Udarents--	C	Jan Feb-Apr May-Dec	>6.0 2.5-3.5 4.0-6.0 >6.0	>6.0 4.0-6.0 >6.0	Perched Perched ---	---	---	None None None
822A: Alfic Udarents--	D	Jan Feb-Apr May-Dec	>6.0 2.5-3.5 4.0-6.0 >6.0	>6.0 4.0-6.0 >6.0	Perched Perched ---	---	---	None None None
Ellriott-----	C/D	Jan-May Jun-Dec	1.0-2.0 1.7-4.3 >6.0	1.7-4.3 >6.0	Perched ---	---	---	None None

Table 21.-Water Features-Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
822B: Alfic Udarents--	D	Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	2.5-3.5	4.0-6.0	Perched	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None
Elliot--	C/D	Jan-May	1.0-2.0	1.7-4.3	Perched	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None
830: Landfills--	C	Jan-Dec	>6.0	>6.0	---	---	---	None
848B: Drummer--	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent
		Jun-Dec	>6.0	>6.0	---	---	---	None
Barrington--	C	Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None
Mundelein--	B/D	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None
849A: Milford--	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent
		Jun-Dec	>6.0	>6.0	---	---	---	None
Martinton--	C/D	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None
854B: Markham--	C	Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	2.0-3.5	2.2-5.1	Perched	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None
Ashkum--	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent
		Jun-Dec	>6.0	>6.0	---	---	---	None
Beecher--	C/D	Jan-May	0.5-2.0	2.0-4.3	Perched	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None
862, 863, 864, 865. Pits								

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
903A: Muskego-----	C/D	Jan-Jun Jul-Oct Nov-Dec	0.0-1.0 >6.0 >6.0	>6.0 >6.0 >6.0	Apparent --- Apparent	0.0-1.0 --- 0.0-1.0	Brief --- Brief	Frequent --- Frequent
Houghton-----	A/D	Jan-Jun Jul-Oct Nov-Dec	0.0-1.0 >6.0 >6.0	>6.0 >6.0 >6.0	Apparent --- Apparent	0.0-1.0 --- 0.0-1.0	Brief --- Brief	Frequent --- Frequent
925B: Frankfort-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-4.0 >6.0	Perched ---	---	---	None None
Bryce-----	C/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
969E2: Casco-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
Rodman-----	A	Jan-Dec	>6.0	>6.0	---	---	---	None
969F: Casco-----	B	Jan-Dec	>6.0	>6.0	---	---	---	None
Rodman-----	A	Jan-Dec	>6.0	>6.0	---	---	---	None
973A: Hoopeston-----	A/D	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	---	---	None None
Selma-----	B/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent ---
1103A: Houghton-----	A/D	Jan-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Long	Frequent
1107A: Sawmill-----	B/D	Jan-Jun Jul-Oct Nov-Dec	0.0-0.5 >6.0 >6.0	>6.0 >6.0 >6.0	Apparent --- Apparent	0.0-0.5 --- 0.0-0.5	Long --- Long	Frequent None Frequent
1330A: Peotone-----	C/D	Jan-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Long	Frequent

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
1409A: Aguents-----	D	Jan-Jun Jul-Oct Nov-Dec	0.0-0.5 >6.0 0.0-0.5	>6.0 >6.0 >6.0	Apparent --- Apparent	0.0-0.5 --- 0.0-0.5	Long --- Long	Frequent None Frequent
1516A: Faxton-----	C/D	Jan-Jun Jul-Oct Nov-Dec	0.0-0.5 >6.0 0.0-0.5	>6.0 >6.0 >6.0	Apparent --- Apparent	0.0-0.5 --- 0.0-0.5	Long --- Long	Frequent None Frequent
1903A: Muskego-----	C/D	Jan-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Long	Frequent
Houghton-----	A/D	Jan-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Long	Frequent
2023B: Alfic Udarents--	D	Jan Feb-Apr May-Dec	>6.0 2.5-3.5 >6.0	>6.0 4.0-6.0 >6.0	--- Perched ---	--- --- ---	--- --- ---	None None None
Urban land.								
Blount-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.5-4.5 >6.0	Perched ---	--- ---	--- ---	None None
2049A: Orthents-----	C	Jan Feb-Apr May-Dec	>6.0 3.5-5.0 >6.0	>6.0 >6.0 >6.0	--- Apparent ---	--- --- ---	--- --- ---	None None None
Urban land.								
Watseka-----	A/D	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	--- ---	--- ---	None None
2223B: Alfic Udarents--	C	Jan Feb-Apr May-Dec	>6.0 3.5-5.0 >6.0	>6.0 4.0-6.0 >6.0	--- Perched ---	--- --- ---	--- --- ---	None None None
Urban land.								
Varna-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-5.5 >6.0	--- Perched ---	--- --- ---	--- --- ---	None None None

Table 21.-Water Features-Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
2232A: Orthents-----	D	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---	--- --- ---	---	None None None
Urban land.								
Ashkum-----	C/D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None
2530B: Alfic Udarents--	C	Jan Feb-Apr May-Dec	>6.0 3.5-5.0 >6.0	>6.0 4.0-6.0 >6.0	--- Perched ---	--- --- ---	---	None None None
Urban land.								
Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.3 >6.0	--- Perched ---	--- --- ---	---	None None None
2530D: Alfic Udarents--	C	Jan Feb-Apr May-Dec	>6.0 3.5-5.0 >6.0	>6.0 4.0-6.0 >6.0	--- Perched ---	--- --- ---	---	None None None
Urban land.								
Ozaukee-----	C	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.3 >6.0	--- Perched ---	--- --- ---	---	None None None
2571A: Orthents-----	C	Jan Feb-Apr May-Dec	>6.0 3.5-5.0 >6.0	>6.0 3.7-5.5 >6.0	--- Perched ---	--- --- ---	---	None None None
Urban land.								
Whitaker-----	B/D	Jan-May Jun-Dec	0.5-2.0 >6.0	>6.0 >6.0	Apparent ---	--- ---	---	None None

Table 21.-Water Features-Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
2740A: Orthents-----	C	Jan Feb-Apr May-Dec	>6.0 3.5-5.0 >6.0	>6.0 3.7-5.5 >6.0	--- Perched ---	--- --- ---	---	None None None
Urban land.								
Darroch-----	B/D	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	--- ---	---	None None
2800A: Urban land.								
Psammets-----	C	Jan-Dec	>6.0	>6.0	---	---	---	None
2800B: Urban land.								
Psammets-----	C	Jan-Dec	>6.0	>6.0	---	---	---	None
2811A: Urban land.								
Alfic Udarents--	D	Jan Feb-Apr May-Dec	>6.0 2.5-3.5 >6.0	>6.0 4.0-6.0 >6.0	--- Perched ---	--- --- ---	---	None None None
2811B: Urban land.								
Alfic Udarents--	D	Jan Feb-Apr May-Dec	>6.0 2.5-3.5 >6.0	>6.0 4.0-6.0 >6.0	--- Perched ---	--- --- ---	---	None None None
2822A: Alfic Udarents--	D	Jan Feb-Apr May-Dec	>6.0 2.5-3.5 >6.0	>6.0 4.0-6.0 >6.0	--- Perched ---	--- --- ---	---	None None None
Urban land.								
Elliot-----	C/D	Jan-May Jun-Dec	1.0-2.0 >6.0	1.7-4.3 >6.0	Perched ---	--- ---	---	None None

Table 21.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Months	Water table			Ponding		
			Upper limit	Lower limit	Kind	Surface water depth	Duration	Frequency
			<u>Ft</u>	<u>Ft</u>		<u>Ft</u>		
2822B: Alfisc Udarents--	D	Jan	>6.0	>6.0	---	---	---	None
		Feb-Apr	2.5-3.5	4.0-6.0	Perched	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	None
Urban land.								
Elliot--	C/D	Jan-May	1.0-2.0	1.7-4.3	Perched	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None
3107A: Sawmill--	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	None
		Jul-Oct	>6.0	>6.0	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None
3316A: Romeo--	C/D	Jan-May	0.0-0.5	>6.0	Apparent	0.0-0.5	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	---
		Jul-Oct	>6.0	>6.0	---	---	---	---
		Nov-Dec	>6.0	>6.0	---	---	---	---
3451A: Lawson--	B/D	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None
		Jun	>6.0	>6.0	---	---	---	None
		Jul-Oct	>6.0	>6.0	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	None
4904A: Muskego--	C/D	Jan-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Very long	Frequent
Pectone--	C/D	Jan-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Very long	Frequent
M-W. Miscellaneous water								
W. Water								

Table 22.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature that data were not estimated)

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action
	Kind	Depth to top	Hardness	Initial	Total	
		In		In	In	
23A: Blount-----	Abrupt textural change	8-16	Noncemented	---	---	High
	Densic material	30-48	Noncemented			
23B: Blount-----	Abrupt textural change	8-16	Noncemented	---	---	High
	Densic material	30-48	Noncemented			
49A: Watseka-----	---	---	---	---	---	Low
54B: Plainfield-----	---	---	---	---	---	Low
67A: Harpster-----	---	---	---	---	---	High
69A: Milford-----	---	---	---	---	---	High
91A: Swygert-----	Densic material	35-55	Noncemented	---	---	Moderate
91B: Swygert-----	Densic material	35-55	Noncemented	---	---	Moderate
103A: Houghton-----	---	---	---	6-18	55-60	High
125A: Selma-----	---	---	---	---	---	High
141A: Wesley-----	---	---	---	---	---	Moderate
146A: Elliott-----	Densic material	20-45	Noncemented	---	---	Moderate
146B: Elliott-----	Densic material	20-45	Noncemented	---	---	Moderate

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
152A: Drummer-----	---	---	---	---	---	High	Hig
153A: Pella-----	---	---	---	---	---	High	Hig
172A: Hoopeston-----	---	---	---	---	---	Moderate	Hig
189A: Martinton-----	---	---	---	---	---	Moderate	Hig
192A: Del Rey-----	---	---	---	---	---	High	Hig
201A: Gilford-----	---	---	---	---	---	High	Hig
206A: Thorp-----	---	---	---	---	---	High	Hig
223B: Varna-----	Densic material	24-60	Noncemented	---	---	Moderate	Hig
223C2: Varna, eroded-----	Densic material	24-60	Noncemented	---	---	Moderate	Hig
228A: Nappanee-----	Densic material	30-60	Noncemented	---	---	High	Hig
228B: Nappanee-----	Densic material	30-60	Noncemented	---	---	High	Hig
228C2: Nappanee, eroded-----	Densic material	24-60	Noncemented	---	---	High	Hig
232A: Ashkum-----	---	---	---	---	---	High	Hig
235A: Bryce-----	---	---	---	---	---	High	Hig
241D3: Chatsworth, severely eroded-----	Densic material	10-24	Noncemented	---	---	Moderate	Hig

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action
	Kind	Depth to top	Hardness	Initial	Total	
		In —		In —	In —	
241E3: Chatsworth, severely eroded-----	Densic material	10-24	Noncemented	---	---	Moderate
290B: Warsaw-----	Strongly contrasting textural stratification	24-40	Noncemented	---	---	Moderate
293A: Andres-----	---	---	---	---	---	Moderate
294B: Symerton-----	---	---	---	---	---	Moderate
295A: Mokena-----	Densic material	30-60	Noncemented	---	---	Moderate
298A: Beecher-----	Densic material	24-45	Noncemented	---	---	High
298B: Beecher-----	Densic material	24-45	Noncemented	---	---	High
318C2: Lorenzo, eroded-----	Strongly contrasting textural stratification	12-24	Noncemented	---	---	Moderate
318D2: Lorenzo, eroded-----	Strongly contrasting textural stratification	12-24	Noncemented	---	---	Moderate
320A: Frankfort-----	Densic material	24-42	Noncemented	---	---	High
320B: Frankfort-----	Densic material	24-42	Noncemented	---	---	High
320C2: Frankfort, eroded-----	Densic material	24-42	Noncemented	---	---	High

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In		In	In		
327A: Fox-----	Strongly contrasting textural stratification	20-40	Noncemented	---	---	Moderate	Hig
327B: Fox-----	Strongly contrasting textural stratification	20-40	Noncemented	---	---	Moderate	Hig
327C2: Fox, eroded-----	Strongly contrasting textural stratification	20-40	Noncemented	---	---	Moderate	Hig
329A: Will-----	Strongly contrasting textural stratification	20-40	Noncemented	---	---	High	Hig
330A: Peotone-----	---	---	---	---	---	High	Hig
343A: Kane-----	Strongly contrasting textural stratification	20-40	Noncemented	---	---	Moderate	Hig
361B: Kidder-----	---	---	---	---	---	Moderate	Low
361C2: Kidder, eroded-----	---	---	---	---	---	Moderate	Low
361D2: Kidder, eroded-----	---	---	---	---	---	Moderate	Low
361E2: Kidder, eroded-----	---	---	---	---	---	Moderate	Low
363B: Griswold-----	---	---	---	---	---	Moderate	Low

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In --		In --	In --		
363C2: Griswold, eroded-----	---	---	---	---	---	Moderate	Low
367. Beaches							
369B: Waupecan-----	Strongly contrasting textural stratification	40-60	Noncemented	---	---	High	High
370B: Saylesville-----	---	---	---	---	---	Moderate	High
392A: Urban land.							
Orthents, loamy, nearly level-----	---	---	---	---	---	Moderate	High
392B: Urban land.							
Orthents, loamy, gently sloping-----	---	---	---	---	---	Moderate	High
442A: Mundelein-----	---	---	---	---	---	High	High
443B: Barrington-----	---	---	---	---	---	High	High
494B: Kankakee-----	---	---	---	---	---	Moderate	Low
503B: Rockton-----	Lithic bedrock	20-40	Indurated	---	---	Moderate	Mod
522B: Orthents, clayey, refuse substratum, undulating-----	Densic material	5-12	Noncemented	---	---	Moderate	High
522D: Orthents, clayey, refuse substratum, rolling-----	Densic material	4-10	Noncemented	---	---	Moderate	High

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Un-
	Kind	Depth to top	Hardness	Initial	Total		
		In —		In —	In —		
522F: Orthents, clayey, refuse substratum, steep-----	Densic material	3-9	Noncemented	---	---	Moderate	High
523A: Dunham-----	Strongly contrasting textural stratification	40-55	Noncemented	---	---	High	High
526A: Grundelein-----	Strongly contrasting textural stratification	40-50	Noncemented	---	---	High	High
529A: Selmass-----	Strongly contrasting textural stratification	39-55	Noncemented	---	---	High	High
530B: Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate	High
530C: Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate	High
530C2: Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate	High
530D: Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate	High
530D2: Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate	High
530D3: Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate	High
530E: Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate	High
530F: Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	U
	Kind	Depth to top	Hardness	Initial	Total		
		In —		In —	In —		
531B: Markham-----	Densic material	20-55	Noncemented	---	---	Moderate	Hig
531C2: Markham, eroded-----	Densic material	20-55	Noncemented	---	---	Moderate	Hig
531D2: Markham, eroded-----	Densic material	20-55	Noncemented	---	---	Moderate	Hig
533. Urban land							
534A: Urban land.							
Orthents, clayey, nearly level-----	Densic material	4-12	Noncemented	---	---	Moderate	Hig
534B: Urban land.							
Orthents, clayey, gently sloping-----	Densic material	4-10	Noncemented	---	---	Moderate	Hig
535B: Orthents, undulating, stony-----	---	---	---	---	---	Moderate	Mod
541B: Graymont-----	---	---	---	---	---	High	Hig
560D2: St. Clair, eroded-----	Densic material	20-48	Noncemented	---	---	Moderate	Hig
571A: Whitaker-----	---	---	---	---	---	High	Hig
614A: Chenoa-----	---	---	---	---	---	Moderate	Hig
696A: Zurich-----	---	---	---	---	---	High	Hig
696B: Zurich-----	---	---	---	---	---	High	Hig
696C2: Zurich, eroded-----	---	---	---	---	---	High	Hig

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Ur
	Kind	Depth to top	Hardness	Initial	Total		
		In —		In —	In —		
696D2: Zurich, eroded-----	---	---	---	---	---	High	High
697A: Wauconda-----	---	---	---	---	---	High	High
698B: Grays-----	---	---	---	---	---	High	High
740A: Darroch-----	---	---	---	---	---	Moderate	High
741B: Oakville-----	---	---	---	---	---	Low	Low
741D: Oakville-----	---	---	---	---	---	Low	Low
800A: Psammets, nearly level	---	---	---	---	---	Low	Low
802A: Orthents, loamy, nearly level-----	---	---	---	---	---	Moderate	High
802B: Orthents, loamy, undulating-----	---	---	---	---	---	Moderate	High
802D: Orthents, loamy, rolling-----	---	---	---	---	---	Moderate	High
805A: Orthents, clayey, nearly level-----	Densic material	4-12	Noncemented	---	---	Moderate	High
805B: Orthents, clayey, undulating-----	Densic material	4-10	Noncemented	---	---	Moderate	High
805D: Orthents, clayey, rolling-----	Densic material	3-9	Noncemented	---	---	Moderate	High

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action
	Kind	Depth to top	Hardness	Initial	Total	
		In --		In --	In --	
807A: Orthents, loamy-skeletal, nearly level-----	---	---	---	---	---	Moderate
807B: Orthents, loamy-skeletal, undulating-----	---	---	---	---	---	Moderate
811A: Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
811B: Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
811D: Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
822A: Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
Elliott-----	Densic material	20-45	Noncemented	---	---	Moderate
822B: Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
Elliott-----	Densic material	20-45	Noncemented	---	---	Moderate
830. Landfills						
848B: Drummer-----	---	---	---	---	---	High
Barrington-----	---	---	---	---	---	High
Mundelein-----	---	---	---	---	---	High
849A: Milford-----	---	---	---	---	---	High
Martinton-----	---	---	---	---	---	Moderate

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Ur
	Kind	Depth to top	Hardness	Initial	Total		
		In —		In —	In —		
854B: Markham-----	Densic material	20-55	Noncemented	---	---	Moderate	High
Ashkum-----	---	---	---	---	---	High	High
Beecher-----	Densic material	24-45	Noncemented	---	---	High	High
862. Pits, sand							
863. Pits, clay							
864. Pits, quarry							
865. Pits, gravel							
903A: Muskego-----	---	---	---	6-18	35-45	High	High
Houghton-----	---	---	---	6-18	55-60	High	High
925B: Frankfort-----	Densic material	24-42	Noncemented	---	---	High	High
Bryce-----	---	---	---	---	---	High	High
969E2: Casco, eroded-----	Strongly contrasting textural stratification	10-20	Noncemented	---	---	Moderate	High
Rodman, eroded-----	---	---	---	---	---	Low	High
969F: Casco-----	Strongly contrasting textural stratification	10-20	Noncemented	---	---	Moderate	High
Rodman-----	---	---	---	---	---	Low	High

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action
	Kind	Depth to top	Hardness	Initial	Total	
		In —		In —	In —	
973A: Hoopeston-----	---	---	---	---	---	Moderate
Selma-----	---	---	---	---	---	High
1103A: Houghton, undrained----	---	---	---	6-18	55-60	High
1107A: Sawmill, undrained, frequently flooded----	---	---	---	---	---	High
1330A: Peotone, undrained----	---	---	---	---	---	High
1409A: Aqents, clayey, undrained-----	---	---	---	---	---	High
1516A: Faxon, undrained, frequently flooded----	Lithic bedrock	20-40	Indurated	---	---	High
1903A: Muskego, undrained----	---	---	---	6-18	35-45	High
Houghton, undrained----	---	---	---	6-18	55-60	High
2023B: Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
Urban land.						
Blount-----	Abrupt textural change	8-16	Noncemented	---	---	High
2049A: Orthents, loamy-----	Densic material	30-48	Noncemented			
Urban land.	---	---	---	---	---	Moderate
Watseka-----	---	---	---	---	---	Low

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action
	Kind	Depth to top	Hardness	Initial	Total	
		In —		In —	In —	
2223B: Alfic Udarents, clayey Urban land.	Densic material	48-66	Noncemented	---	---	Moderate
Varna-----	Densic material	24-60	Noncemented	---	---	Moderate
2232A: Orthents, clayey----- Urban land.	Densic material	4-12	Noncemented	---	---	Moderate
Ashkum-----	---	---	---	---	---	High
2530B: Alfic Udarents, clayey Urban land.	Densic material	48-66	Noncemented	---	---	Moderate
Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate
2530D: Alfic Udarents, clayey Urban land.	Densic material	48-66	Noncemented	---	---	Moderate
Ozaukee-----	Densic material	20-45	Noncemented	---	---	Moderate
2571A: Orthents, loamy----- Urban land.	---	---	---	---	---	Moderate
Whitaker-----	---	---	---	---	---	High
2740A: Orthents, loamy----- Urban land.	---	---	---	---	---	Moderate
Darroch-----	---	---	---	---	---	Moderate
2800A: Urban land.						
Psammets, nearly level	---	---	---	---	---	Low

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action
	Kind	Depth to top	Hardness	Initial	Total	
		In —		In —	In —	
2800B: Urban land.						
Psammments, gently sloping-----	---	---	---	---	---	Low
2811A: Urban land.						
Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
2811B: Urban land.						
Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
2822A: Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
Urban land.						
Elliott-----	Densic material	20-45	Noncemented	---	---	Moderate
2822B: Alfic Udarents, clayey	Densic material	48-66	Noncemented	---	---	Moderate
Urban land.						
Elliott-----	Densic material	20-45	Noncemented	---	---	Moderate
3107A: Sawmill, frequently flooded-----	---	---	---	---	---	High
3316A: Romeo-----	Lithic bedrock	2-10	Indurated	---	---	High
3451A: Lawson, frequently flooded-----	---	---	---	---	---	High
4904A: Muskego, ponded-----	---	---	---	6-18	35-45	High
Peotone, ponded-----	---	---	---	---	---	High

Table 22.-Soil Features-Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action
	Kind	Depth to top	Hardness	Initial	Total	
		In —		In —	In —	
M-W. Miscellaneous water						
W. Water						

NRCS Accessibility Statement

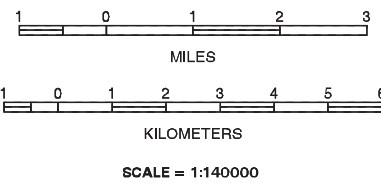
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SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

INDEX TO MAP SHEETS
COOK COUNTY, ILLINOIS



GEND

and letters. The initial numbers represent the
r following these numbers indicates the class
letter indicates that the soil is moderately
is severely eroded. Symbols that do not have
indicate map units that are not eroded or are
do not have a slope class letter.







NAME	
Ozaukee silt loam, 20 to 30 percent slopes	
Markham silt loam, 2 to 4 percent slopes	
Markham silt loam, 4 to 6 percent slopes, eroded	
Markham silt loam, 6 to 12 percent slopes, eroded	
Urban land	
Urban land-Orthents, clayey, complex, gently sloping	
Orthents, undulating, stony	
Graymont silt loam, 2 to 5 percent slopes	
St. Clair silty clay loam, 6 to 12 percent slopes	
Whitaker loam, 0 to 2 percent slopes	
Chenosa silty clay loam, 0 to 2 percent slopes	
Zurich silt loam, 0 to 2 percent slopes	
Zurich silt loam, 2 to 4 percent slopes	
Zurich silt loam, 4 to 6 percent slopes, eroded	
Zurich silt loam, 6 to 12 percent slopes, eroded	
Wauconda silt loam, 0 to 2 percent slopes	
Grays silt loam, 2 to 4 percent slopes	
Darroch silt loam, 0 to 2 percent slopes	
Oakville fine sand, 1 to 6 percent slopes	
Oakville fine sand, 6 to 12 percent slopes	
Psammets, nearly level	
Orthents, loamy, nearly level	
Orthents, loamy, undulating	
Orthents, loamy, rolling	
Orthents, clayey, undulating	
Orthents, clayey, rolling	
Orthents, clayey, skeletal, nearly level	
Orthents, loamy-skeletal, undulating	
Alic Udaents, clayey, 0 to 2 percent slopes	
Alic Udaents, clayey, 2 to 6 percent slopes	
Alic Udaents, clayey, 6 to 12 percent slopes	
Alic Udaents, clayey-Elliott complex, 0 to 2 percent slopes	
Alic Udaents, clayey-Elliott complex, 2 to 4 percent slopes	
Landilis	

Drummer-Barrington-Mundelein complex, 1 to 6 percent slopes
Milford-Marinton complex, 0 to 2 percent slopes
Markham-Ashkum-Beecher complex, 1 to 6 percent slopes



Pits, sand
Pits, clay
Pits, gravel
Muskego and Houghton mucks, 0 to 2 percent slopes
Frankfort-Byce complex, 1 to 6 percent slopes
Casco-Rodman complex, 12 to 20 percent slopes, eroded
Casco-Rodman complex, 20 to 30 percent slopes
Hoopeson-Seima complex, 0 to 2 percent slopes
Houghton muck, undrained, 0 to 2 percent slopes
Sawmill silty clay loam, undrained, 0 to 2 percent slopes
Pecotone silty clay loam, undrained, 0 to 2 percent slopes
Aquents, clayey, undrained, nearly level
Faxton silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded
Muskego and Houghton mucks, undrained, 0 to 2 percent slopes
Alic Udaents, clayey-Urban land-Blount complex, 2 to 4 percent slopes
Orthents, loamy-Urban land-Watsika complex, 0 to 2 percent slopes
Alic Udaents, clayey-Urban land-Vaina complex, 2 to 4 percent slopes
Orthents, clayey-Urban land-Ashkum complex, 0 to 2 percent slopes
Alic Udaents, clayey-Urban land-Ozaukee complex, 2 to 4 percent slopes
Alic Udaents, clayey-Urban land-Ozaukee complex, 6 to 12 percent slopes
Orthents, loamy-Urban land-Whitaker complex, 0 to 2 percent slopes
Orthents, loamy-Urban land-Darroch complex, 0 to 2 percent slopes
Urban land-Psammets complex, nearly level
Urban land-Psammets complex, gently sloping
Urban land-Alic Udaents, clayey, complex, 0 to 2 percent slopes
Urban land-Alic Udaents, clayey, complex, 2 to 6 percent slopes
Alic Udaents, clayey-Urban land-Elliott complex, 0 to 2 percent slopes
Alic Udaents, clayey-Urban land-Elliott complex, 2 to 4 percent slopes
Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded
Romeo silt loam, 0 to 2 percent slopes, frequently flooded
Lawson silt loam, 0 to 2 percent slopes, frequently flooded
Muskego and Pecotone soils, ponded, 0 to 2 percent slopes
Miscellaneous water
Water

CONVENTIONAL AND SPECIAL
SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES	
National, state, or province	— — — — —
County or parish	— — — — —
Field sheet matchline & nealline	— — — — —
UTM COORDINATE TICK	— — — — —
4,380,000 METERS	— — — — —
LAND DIVISION CORNER (section and land grants)	┌ ┐ └ ┘
ROAD EMBLEM & DESIGNATIONS	
Interstate	 173
Federal	 287
State	 52
	 52
	 1224
	 346

SPECIAL SYMBOLS FOR SOIL
SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS	
Bedrock escarpments	
Other than bedrock escarpments	
SHORT STEEP SLOPE
DEPRESSION, closed	◆
Gravel pit	⚡
Gravelly spot	⋯
Marsh or swamp	≡
Rock outcrop (includes sandstone and shale)	∨
Sandy spot	⋮
Severely eroded spot	≡
Wet spot	∨
AD HOC FEATURES	
Calcareous spot	⌘
Gray spot	⊕
Muck spot	⌘



T. 42 N. T. 43 N.

Joins sheet 2, Barrington SE

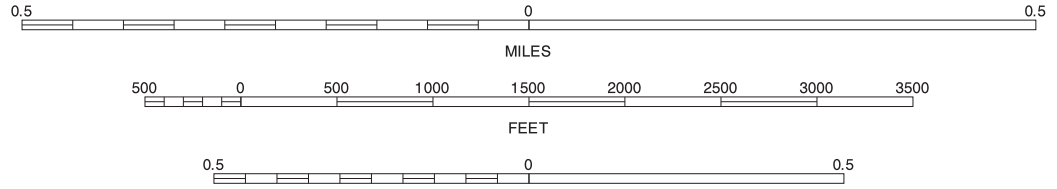
465°00'N

88°11'15"

Joins sheet 12, Streamwood NE

Joins sheet 11, Streamwood NW

SCALE 1:12000



10	11	12
2	2	2
10	11	12

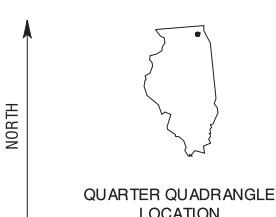
INDEX TO ADJOINING 3.75 MAPS

BARRINGTON SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 1 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

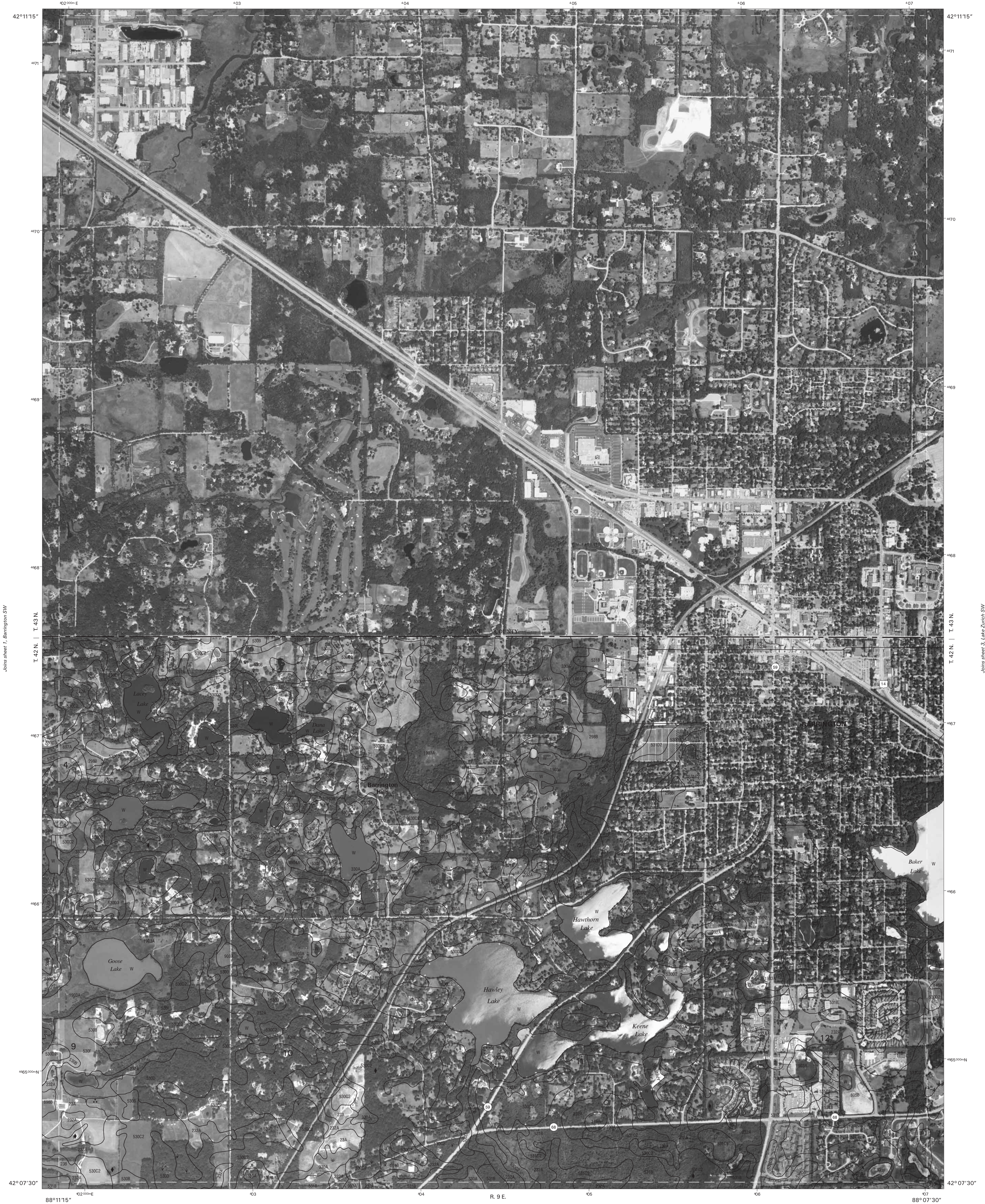
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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



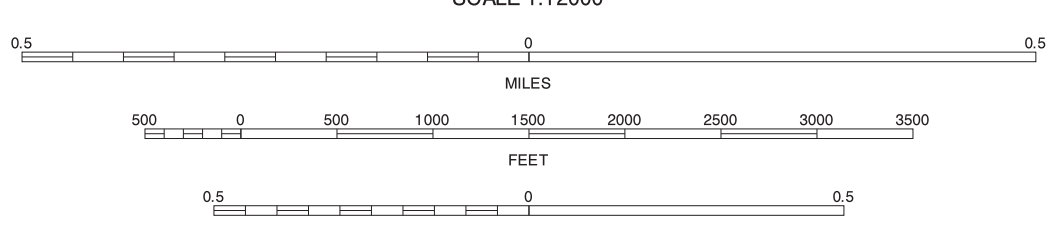
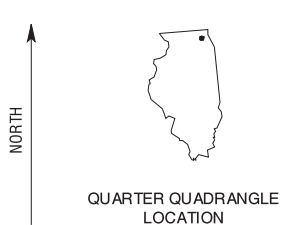
QUARTER QUADRANGLE LOCATION

Joins sheet 10, Elgin NE



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1	3
11	12
13	13

INDEX TO ADJOINING 3.75 MAPS

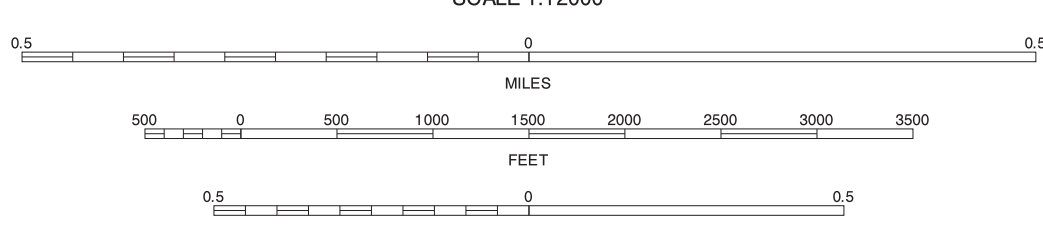
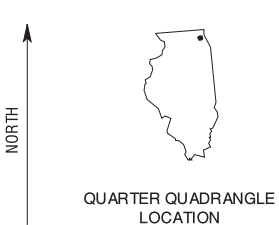
BARRINGTON SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 2 OF 97

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

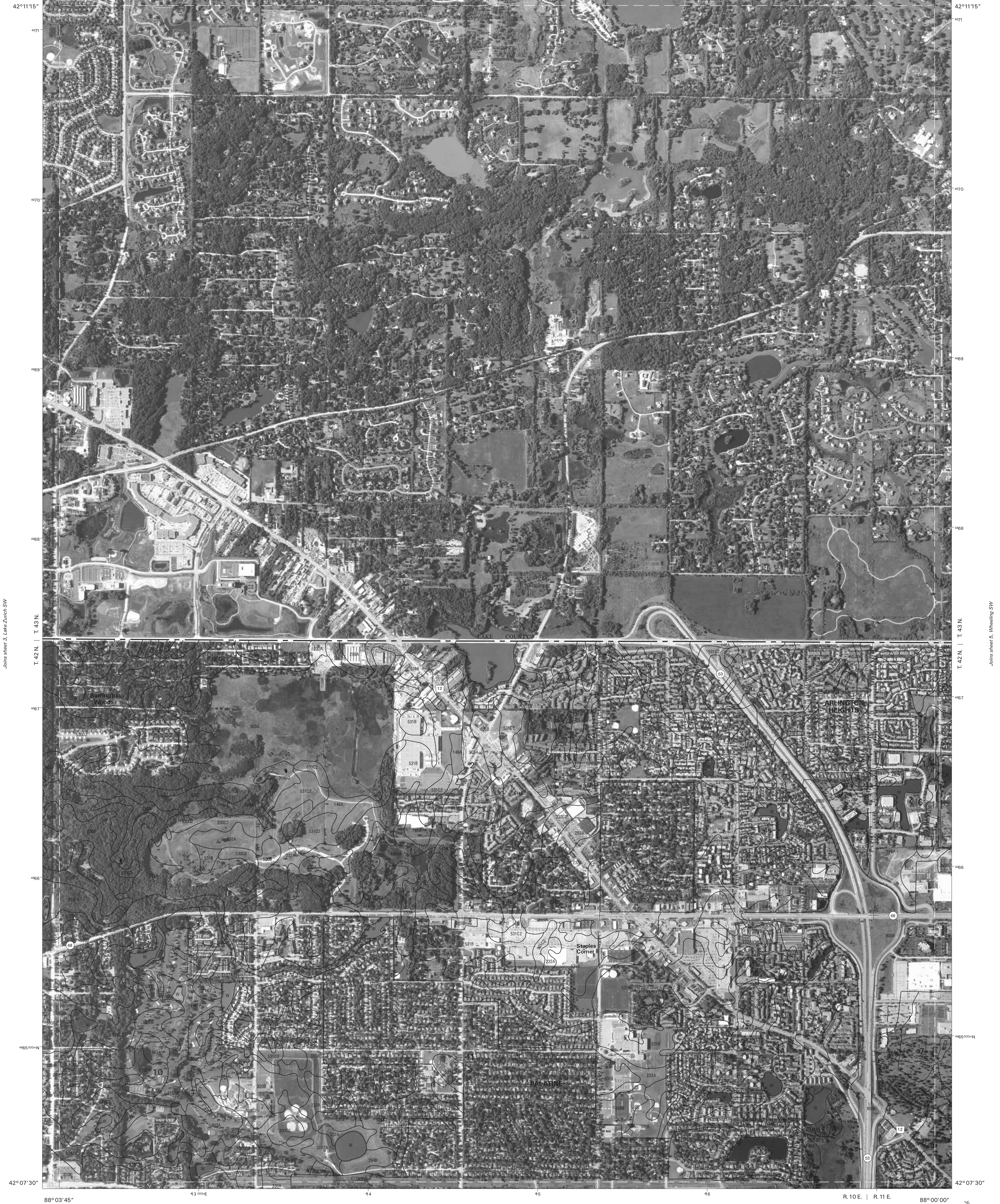


2	4
12	14

INDEX TO ADJOINING 3.75 MAPS

LAKE ZURICH SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 3 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



Join sheet 13,
Palatine NW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

North

QUARTER QUADRANGLE LOCATION

0.5 0 0.5

500 0 500 1000 1500 2000 2500 3000 3500

MILES

FEET

0.5 0 0.5

KILOMETERS

3	5
13	15

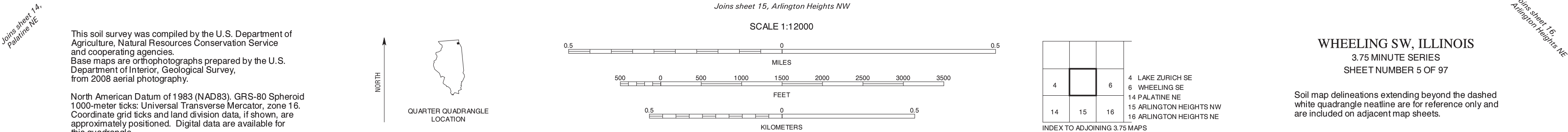
3 LAKE ZURICH SW
5 WHEELING SW
13 PALATINE NW
14 PALATINE NE
15 ARLINGTON HEIGHTS NW

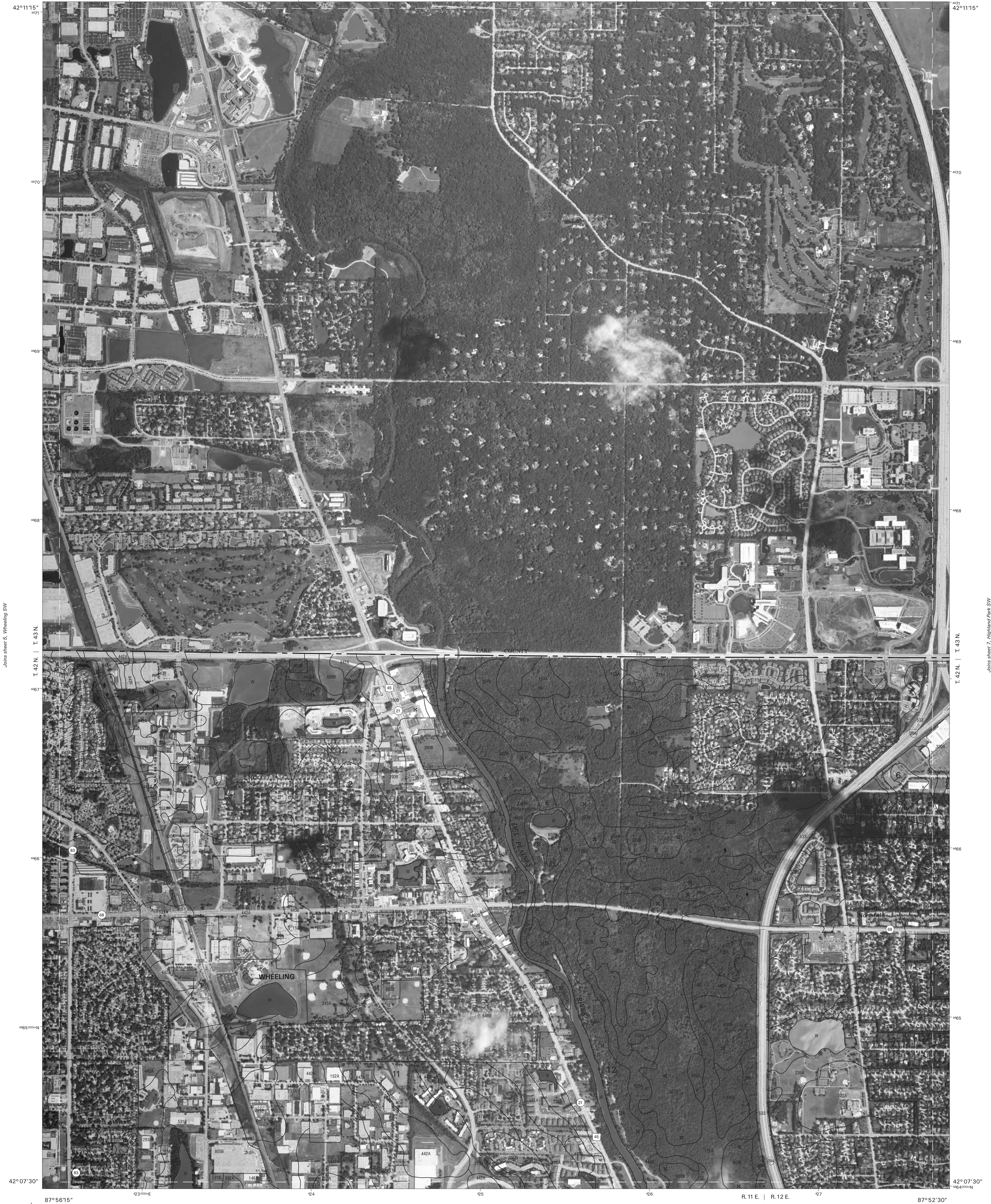
INDEX TO ADJOINING 3.75 MAPS

LAKE ZURICH SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 4 OF 97

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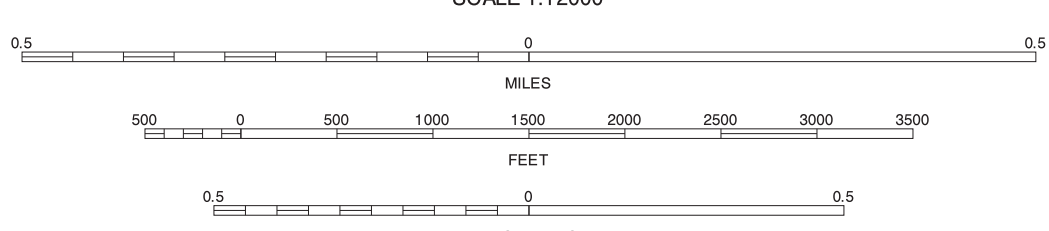
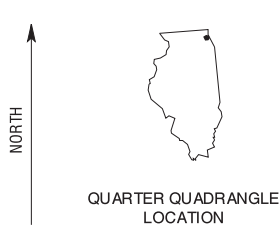
COOK COUNTY, ILLINOIS
WHEELING SW QUADRANGLE
SHEET NUMBER 5 OF 97
87°56'15"





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



5	7
15	17

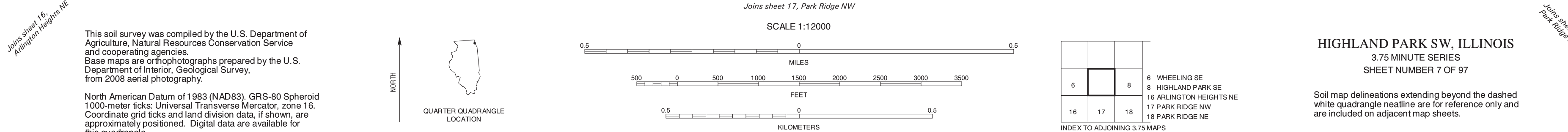
INDEX TO ADJOINING 3.75 MAPS

5 WHEELING SW
7 HIGHLAND PARK SW
15 ARLINGTON HEIGHTS NW
16 ARLINGTON HEIGHTS NE
17 PARK RIDGE NW

WHEELING SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 6 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

COOK COUNTY, ILLINOIS
HIGHLAND PARK SW QUADRANGLE
SHEET NUMBER 7 OF 97
87° 48' 45"



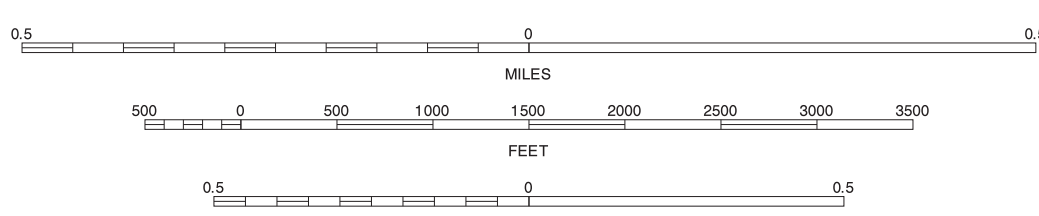
COOK COUNTY, ILLINOIS
HIGHLAND PARK SE QUADRANGLE
SHEET NUMBER 8 OF 97



Joins sheet 9, Highland Park East SW

Joins sheet 19
Evanston NW

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are
approximately positioned. Digital data are available for
this quadrangle.



7		9	7 HIGHLAND PARK SW 9 HIGHLAND PARK EAST SW
17	18	19	17 PARK RIDGE NW 18 PARK RIDGE NE 19 EVANSTON NW

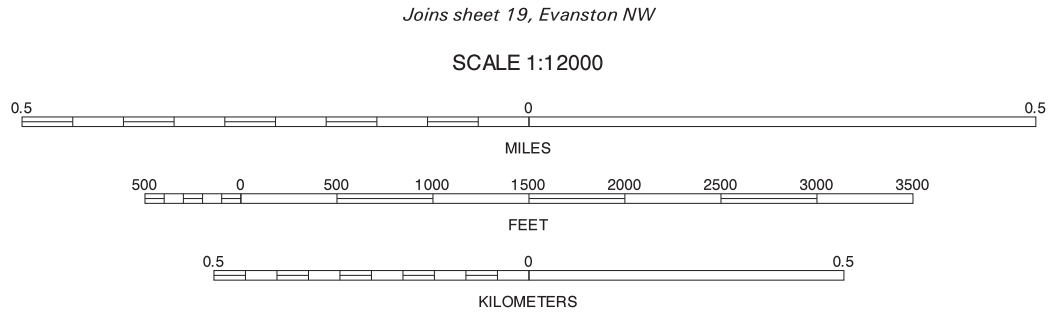
INDEX TO ADJOINING 3.75 MAPS

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

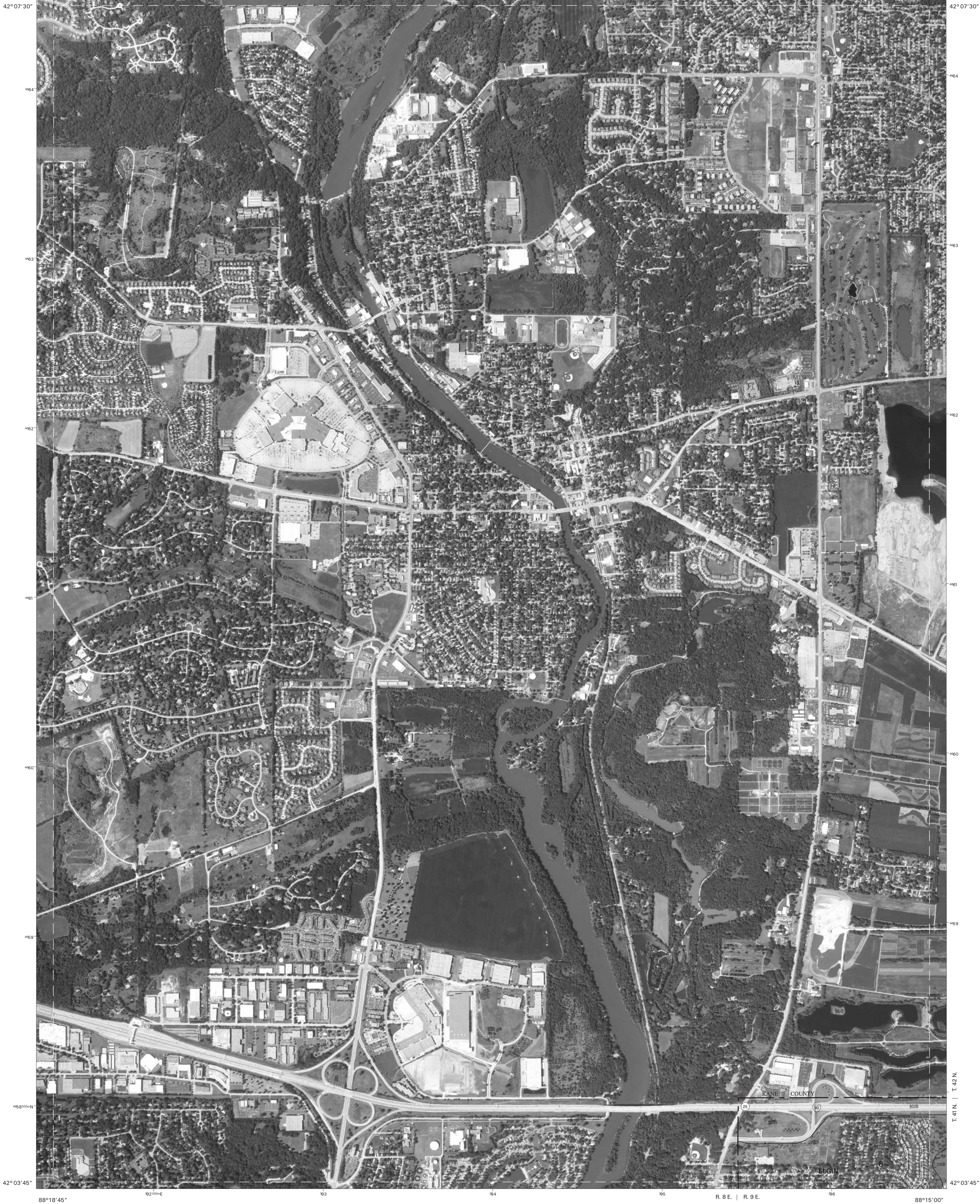
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



8	19	20
8 HIGHLAND PARK SE	18 PARK RIDGE NE	19 EVANSTON NW
	20 EVANSTON NE	

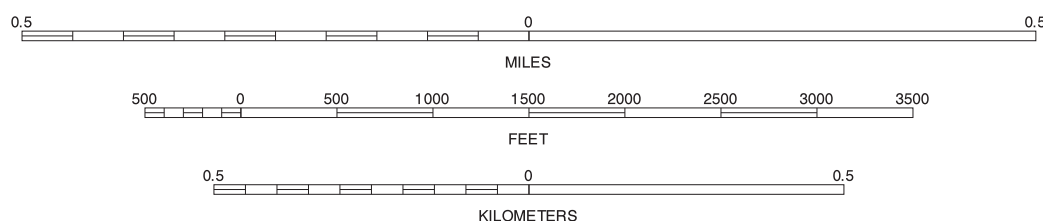
HIGHLAND PARK EAST SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 9 OF 97

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



1	BARRINGTON SW
11	11 STREAMWOOD NW
21	21 ELGIN SE
22	22 STREAMWOOD SW

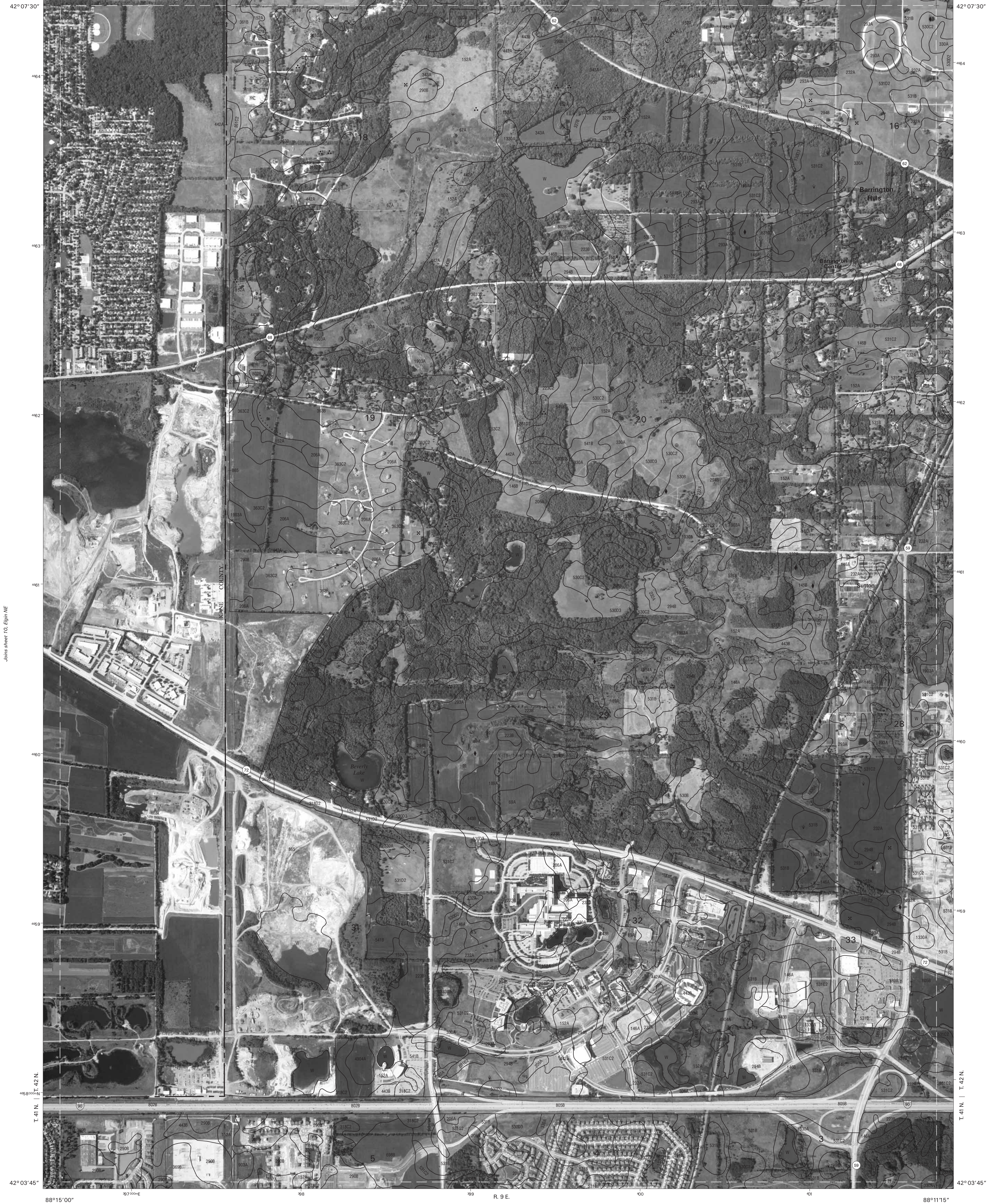
INDEX TO ADJOINING 3.75 MAPS

ELGIN NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 10 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 1, Barrington SW

Joins sheet 2,
Barrington SE

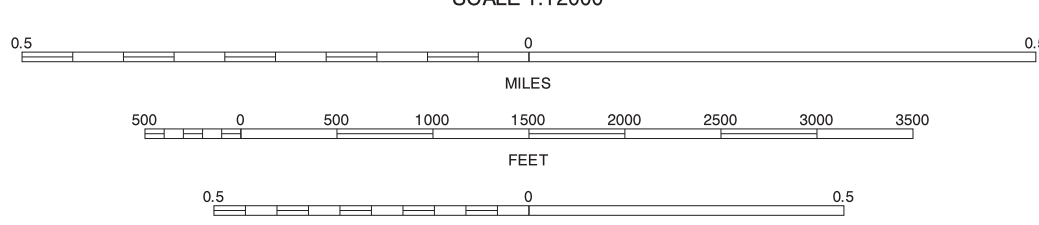
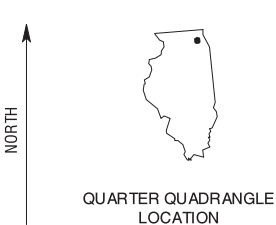


Joins sheet 10, Elgin NE

Joins sheet 12, Streamwood NE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



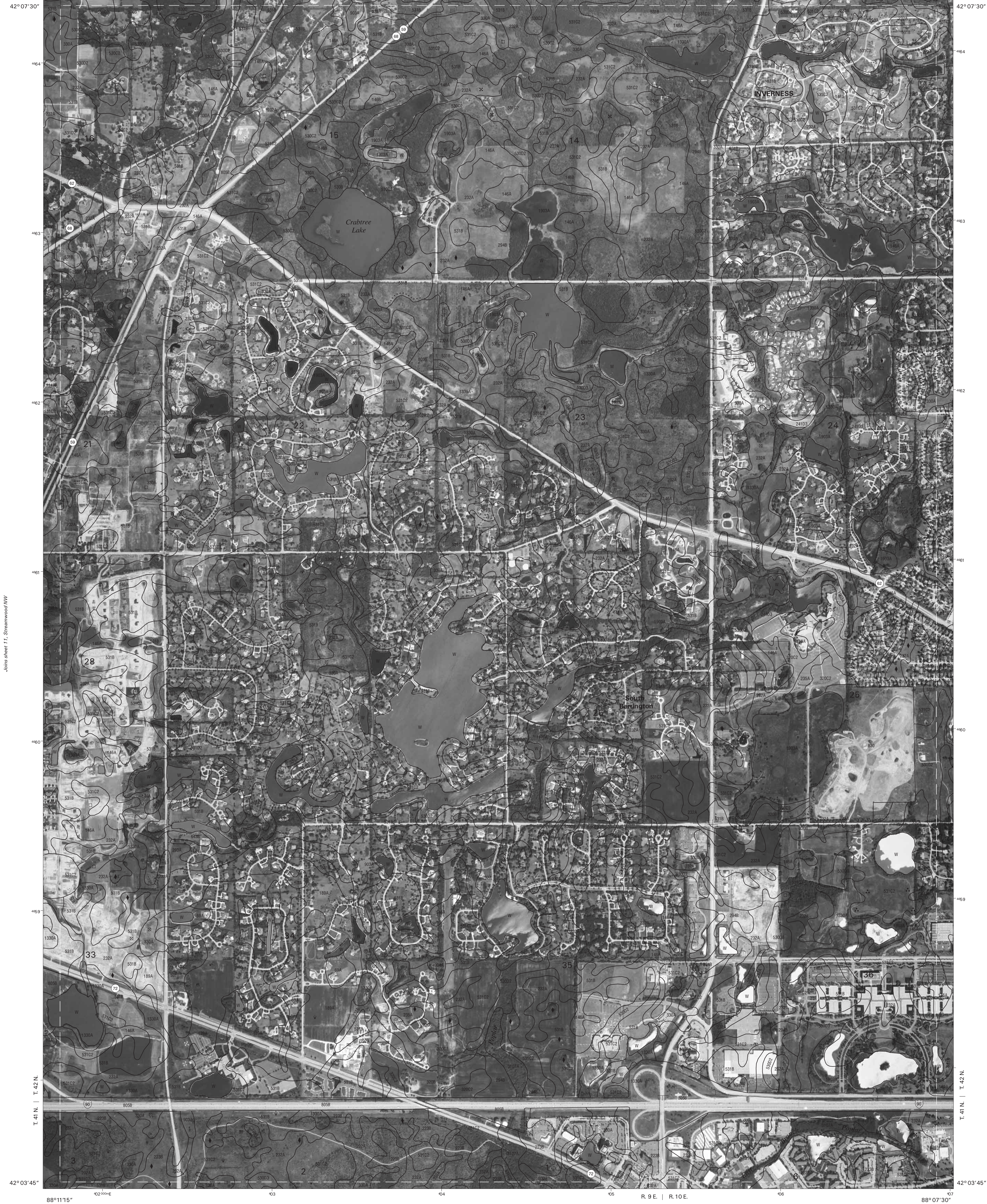
	1	2	
10		12	
21	22	23	

INDEX TO ADJOINING 3.75 MAPS

STREAMWOOD NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 11 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

Joins sheet 23,
Streamwood SE

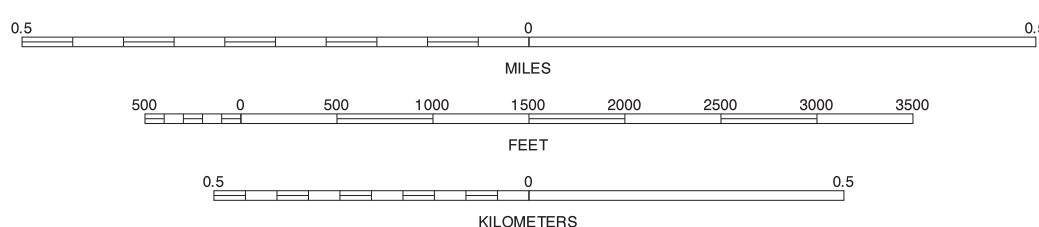
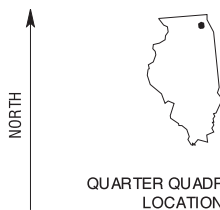


Joins sheet 1, Streamwood NW

Joins sheet 13, Palatine NW

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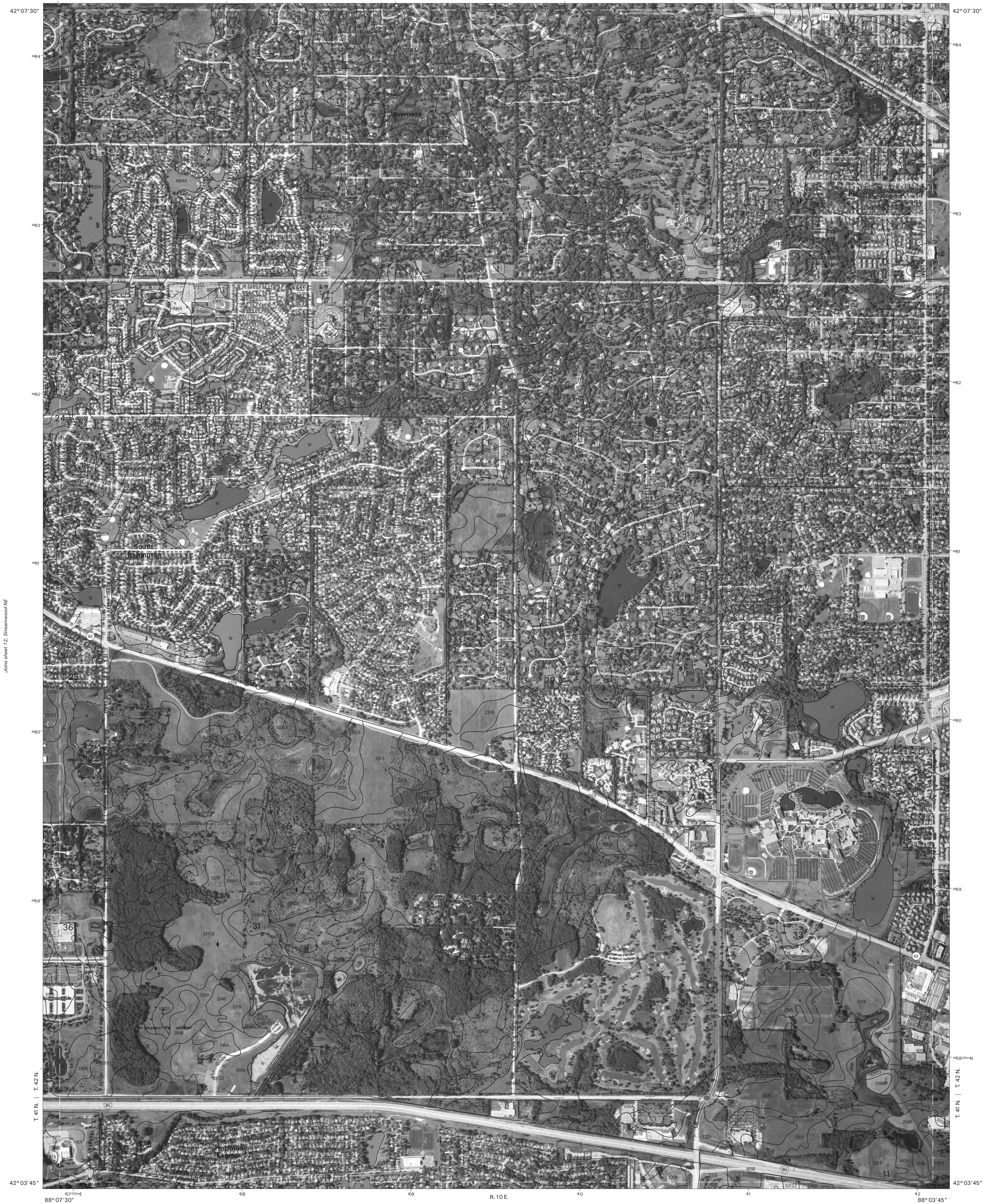
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



1	2	3
11		13
22	23	24

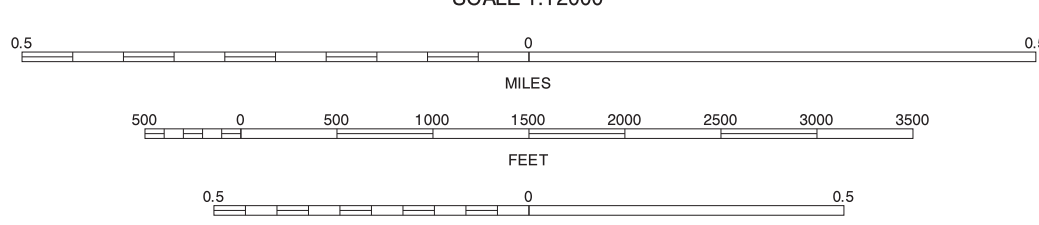
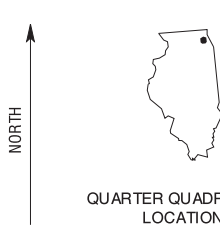
STREAMWOOD NE, ILLINOIS
375 MINUTE SERIES
SHEET NUMBER 12 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

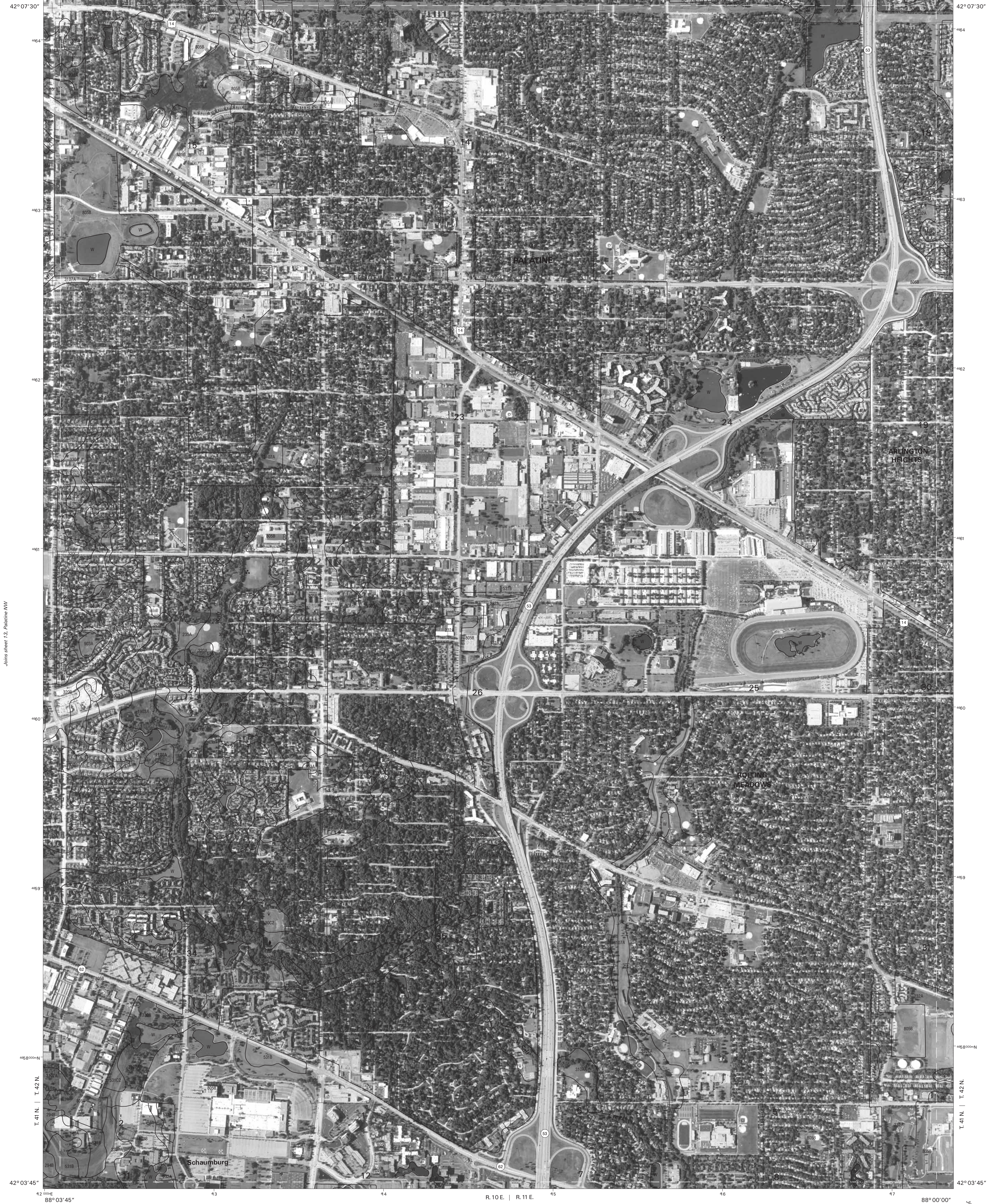


2	3	4
12	14	
23	24	25

INDEX TO ADJOINING 3.75 MAPS

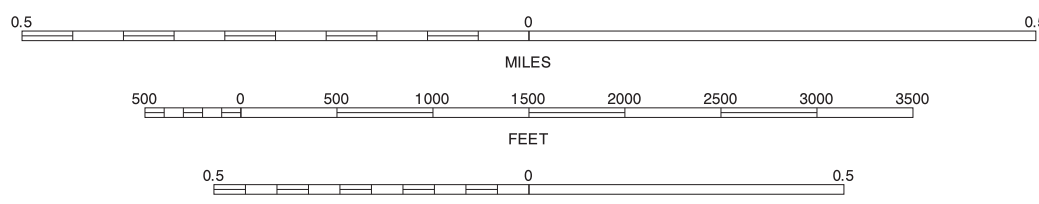
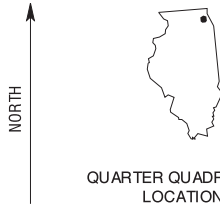
PALATINE NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 13 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



3	4	5	3 LAKE ZURICH SW
13	14	15	4 LAKE ZURICH SE
24	25	26	5 WHEELING NW
			13 PALATINE NW
			15 ARLINGTON HEIGHTS NW
			24 PALATINE SW
			25 PALATINE SE
			26 ARLINGTON HEIGHTS SW

PALATINE NE, ILLINOIS
375 MINUTE SERIES
SHEET NUMBER 14 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

Joins sheet 5, Wheeling SW

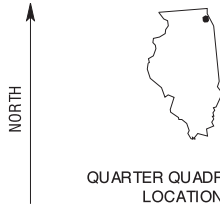
Joins sheet 6,
Wheeling SE

Joins sheet 4,
Lake Zurich SE

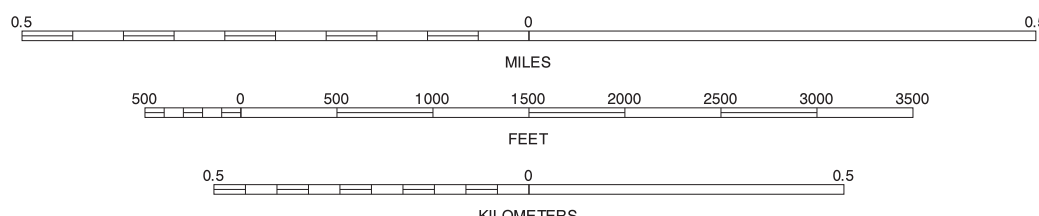


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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE
LOCATION



4	5	6
14	15	16
25	26	27

INDEX TO ADJOINING 3.75 MAPS

ARLINGTON HEIGHTS NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 15 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

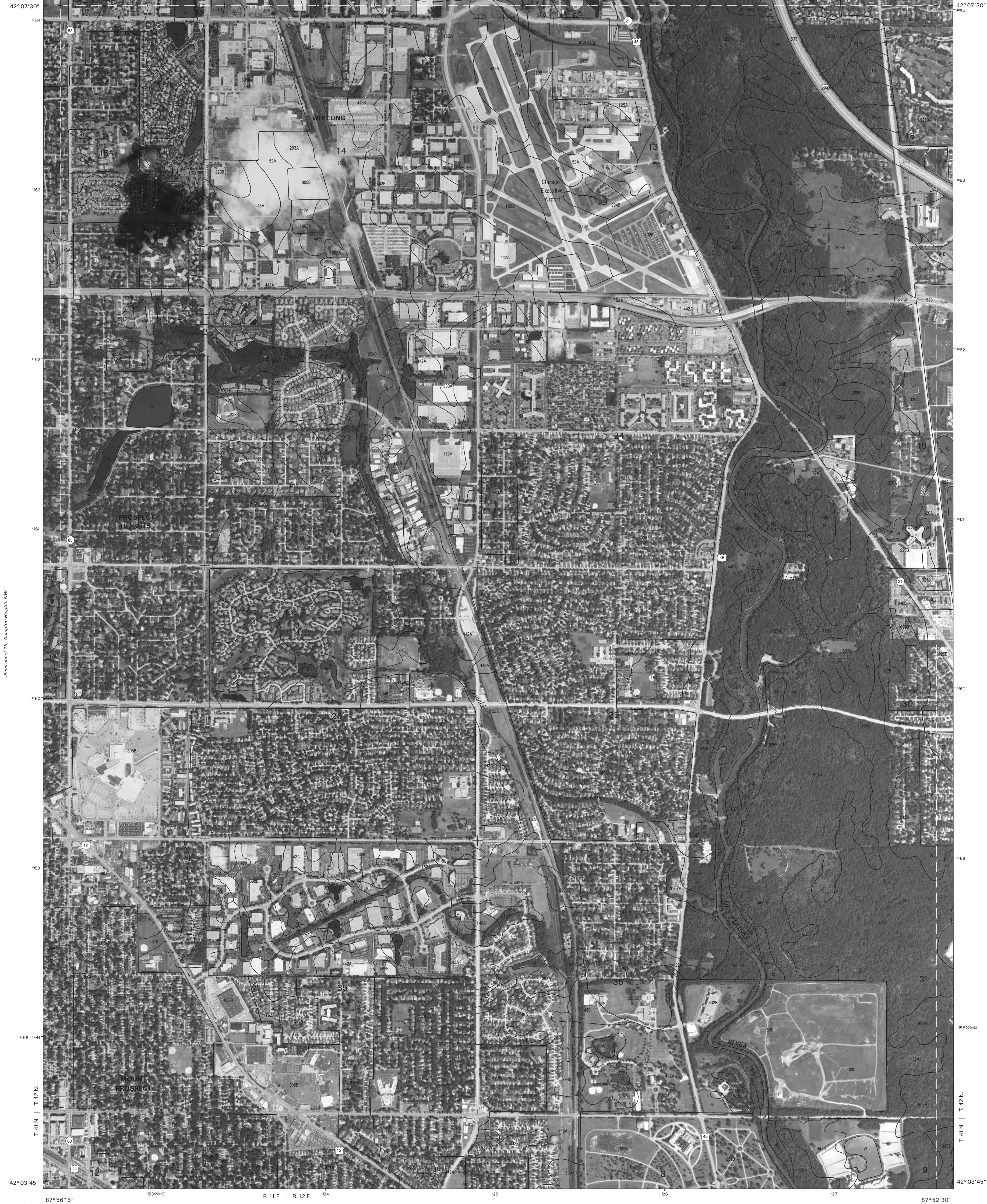
Joins sheet 6, Wheeling SE

R. 11 E. | R. 12 E.

87°52'30"

Joins sheet 7,
Highland Park SW

Joins sheet 9,
Wheeling SW

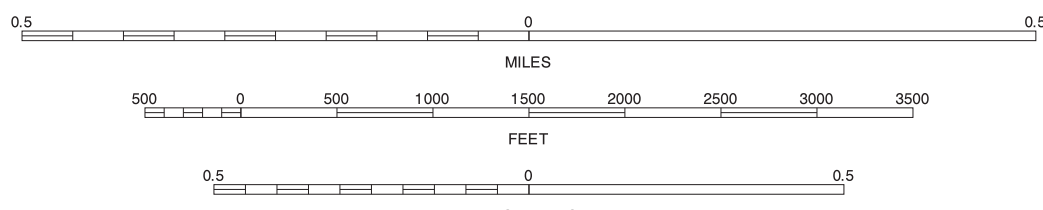


Joins sheet 15, Arlington Heights NW

Joins sheet 17, Park Ridge NW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



5	6	7
15	17	
26	27	28

INDEX TO ADJOINING 3.75 MAPS

ARLINGTON HEIGHTS NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 16 OF 97

Soil map delineations extending beyond the dashed white quadrangle neeline are for reference only and are included on adjacent map sheets.

Joins sheet 28,
Park Ridge SW



Joins sheet 2
Highland Park SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 48' 45"

Joins sheet 8, Highland Park SE

COOK COUNTY, ILLINOIS
PARK RIDGE NE QUADRANGLE
SHEET NUMBER 18 OF 97
87° 45' 00"

Joins sheet 9
Highland Park East SW



Joins sheet 6,
Highland Park SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 9, Highland Park East SW

COOK COUNTY, ILLINOIS
EVANSTON NW QUADRANGLE
SHEET NUMBER 19 OF 97



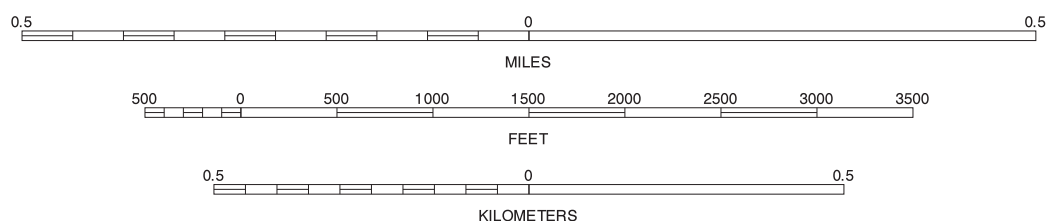
Joins sheet 18, Park Ridge NE

Joins sheet 20, Evanston NE

Joins sheet 29,
Park Ridge SE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



Joins sheet 30, Evanston SW

SCALE 1:12000

8	9	8 HIGHLAND PARK SE 9 HIGHLAND PARK EAST SW
18	20	18 PARK RIDGE NE 20 EVANSTON NE 29 PARK RIDGE SE 30 EVANSTON SW 31 EVANSTON SE
29	30	31

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EVANSTON NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 19 OF 97

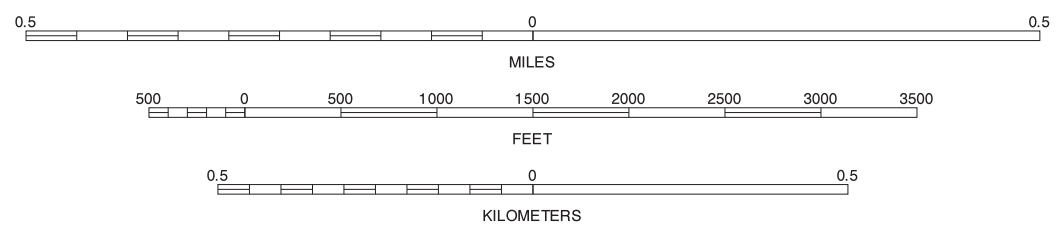
Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Joins sheet 31,
Evanston SE



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



9		9	HIGHLAND PARK EAST SW
19		19	EVANSTON NW
30	31	30	EVANSTON SW
		31	EVANSTON SE

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EVANSTON NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 20 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



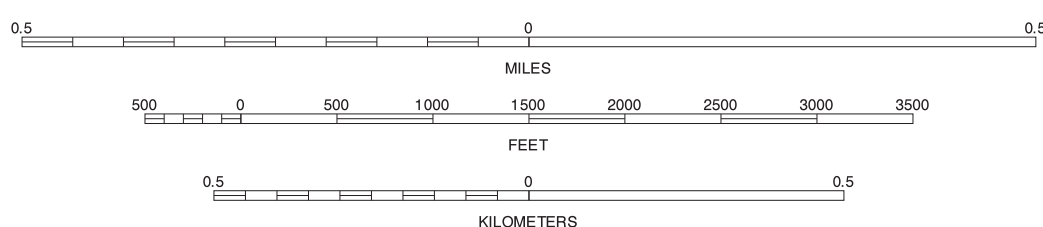
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE
LOCATION



10	11
22	33
32	33

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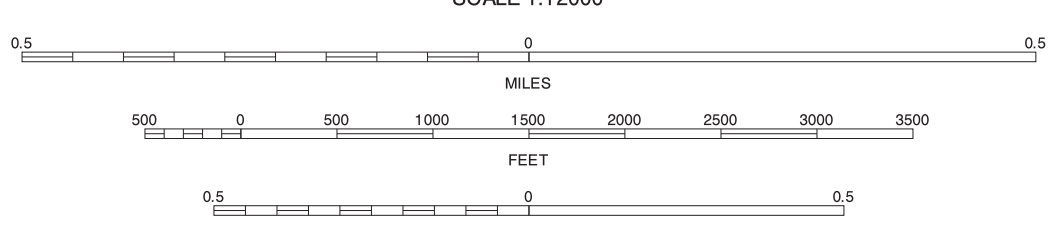
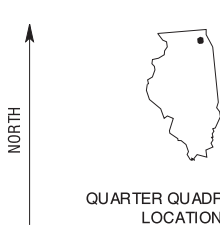
ELGIN SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 21 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



10	11	12	10 ELGIN NE
			11 STREAMWOOD NW
			12 STREAMWOOD NE
21		23	21 ELGIN SE
			23 STREAMWOOD SE
			32 GENEVA NE
32	33	34	33 WEST CHICAGO NW
			34 WEST CHICAGO NE

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STREAMWOOD SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 22 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

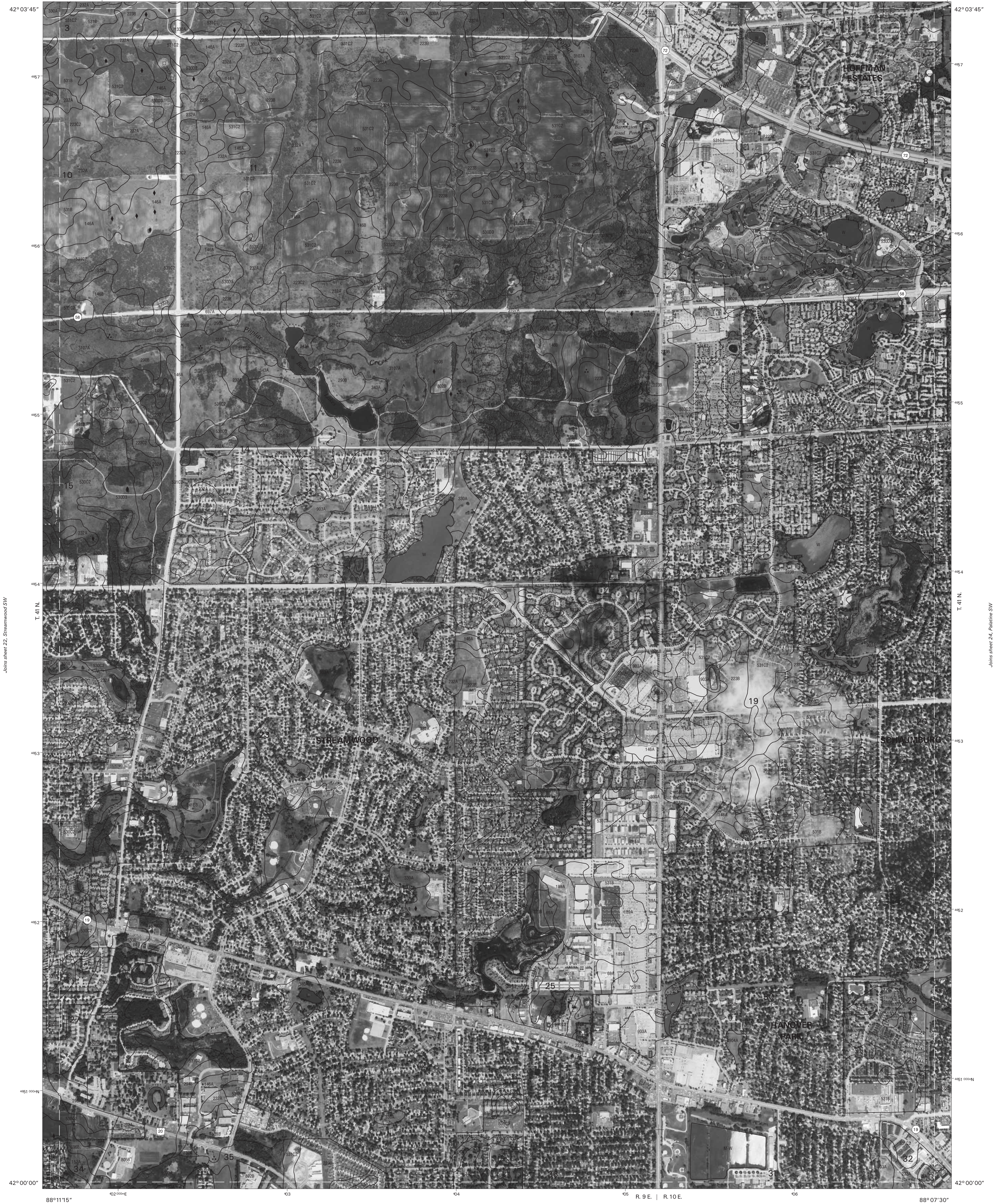
Joins sheet 11
Streamwood NW

Joins sheet 13,
Palatine NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
88°11'15"

Joins sheet 12, Streamwood NE

COOK COUNTY, ILLINOIS
STREAMWOOD SE QUADRANGLE
SHEET NUMBER 23 OF 97
88°07'30"



Joins sheet 22, Streamwood SW

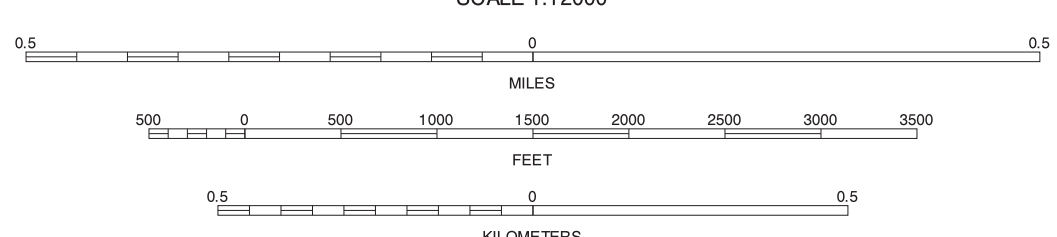
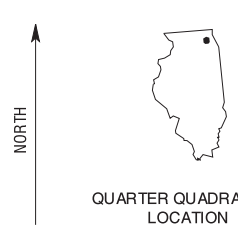
Joins sheet 24, Palatine SW

Joins sheet 33
West Chicago NW

Joins sheet 35
Lombard NW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



11	12	13	11 STREAMWOOD NW 12 STREAMWOOD NE 13 PALATINE NW 22 STREAMWOOD SW 24 PALATINE SW 33 WEST CHICAGO NW 34 WEST CHICAGO NE 35 LOMBARD NW
22		24	
33	34	35	

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STREAMWOOD SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 23 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 12
Streamwood NE

Joins sheet 14,
Palatine NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

COOK COUNTY, ILLINOIS
PALATINE SW QUADRANGLE
SHEET NUMBER 24 OF 97

Joins sheet 13, Palatine NW

R. 10 E.



Joins sheet 23, Streamwood SE

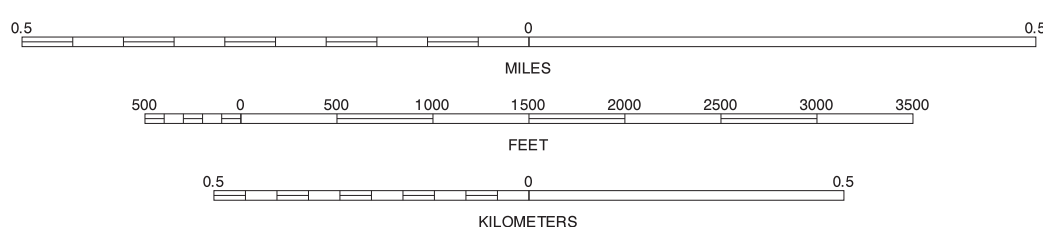
Joins sheet 25, Palatine SE

Joins sheet 34,
West Chicago NE

Joins sheet 36,
Lombard NE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



12	13	14	12 STREAMWOOD NE 13 PALATINE NW 14 PALATINE NE
23		25	23 STREAMWOOD SE 25 PALATINE SE 24 WEST CHICAGO NE
34	35	36	35 LOMBARD NW 36 LOMBARD NE

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PALATINE SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 24 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

COOK COUNTY, ILLINOIS
PALATINE SE QUADRANGLE
SHEET NUMBER 25 OF 97

Joins sheet 14, Palatine NE
R. 10 E. | R. 11 E.

Joins sheet 15,
Arlington Heights NW

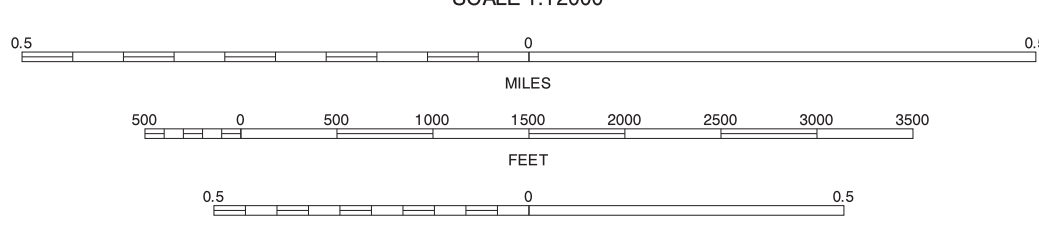
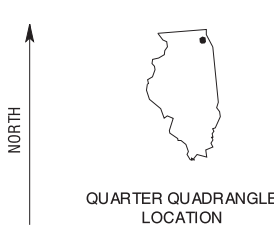
Joins sheet 24, Palatine SW

Joins sheet 26, Arlington Heights SW



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



13	14	15	13 PALATINE NW
14	15	16	14 PALATINE NE
15	16	17	15 ARLINGTON HEIGHTS NW
16	17	18	16 PALATINE SW
17	18	19	17 ARLINGTON HEIGHTS SW
18	19	20	18 LOMBARD NW
19	20	21	19 LOMBARD NE
20	21	22	20 ELMHURST NW

PALATINE SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 25 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

Joins sheet 27,
Elmhurst NW

Joins sheet 15, Arlington Heights NW

Joins sheet 16, Arlington Heights NE

Joins sheet 14, Palatine NE

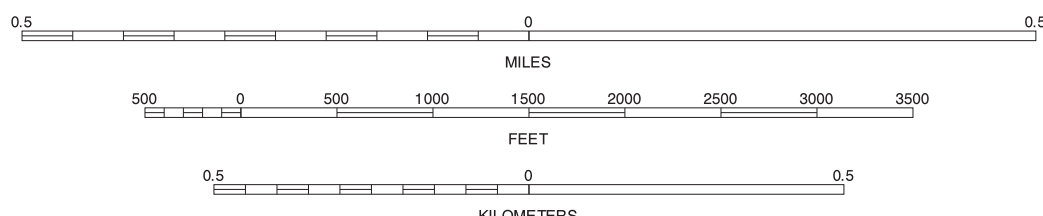
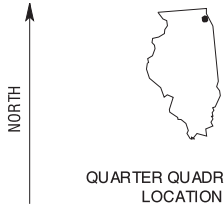
Joins sheet 25, Palatine SE

Joins sheet 27, Arlington Heights SE



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



14	15	16
25	27	
36	37	38

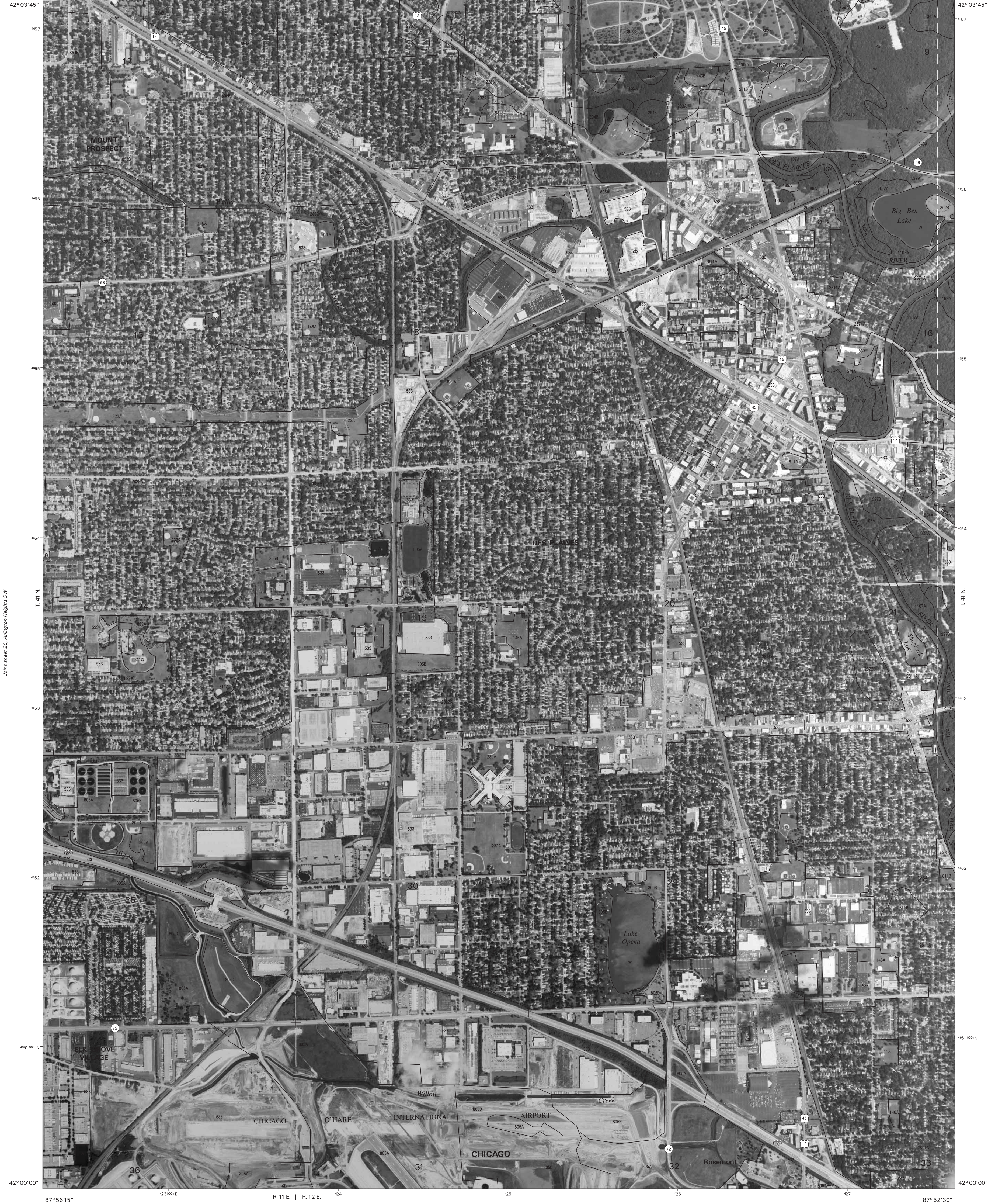
INDEX TO ADJOINING 3.75 MAPS

ARLINGTON HEIGHTS SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 26 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 16, Arlington Heights NE

Joins sheet 11,
Park Ridge NW

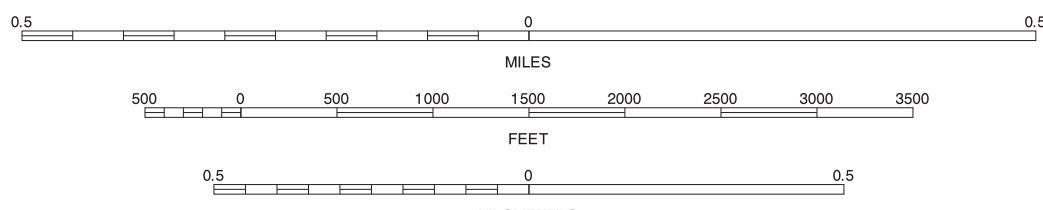


Joins sheet 27,
Elmhurst NW

Joins sheet 28,
River Forest NW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



15	16	17	15 ARLINGTON HEIGHTS NW
			16 ARLINGTON HEIGHTS NE
			17 PARK RIDGE NW
26		28	26 ARLINGTON HEIGHTS SW
			28 PARK RIDGE SW
			37 ELMHURST NW
37	38	39	38 ELMHURST NE
			39 RIVER FOREST NW

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ARLINGTON HEIGHTS SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 27 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

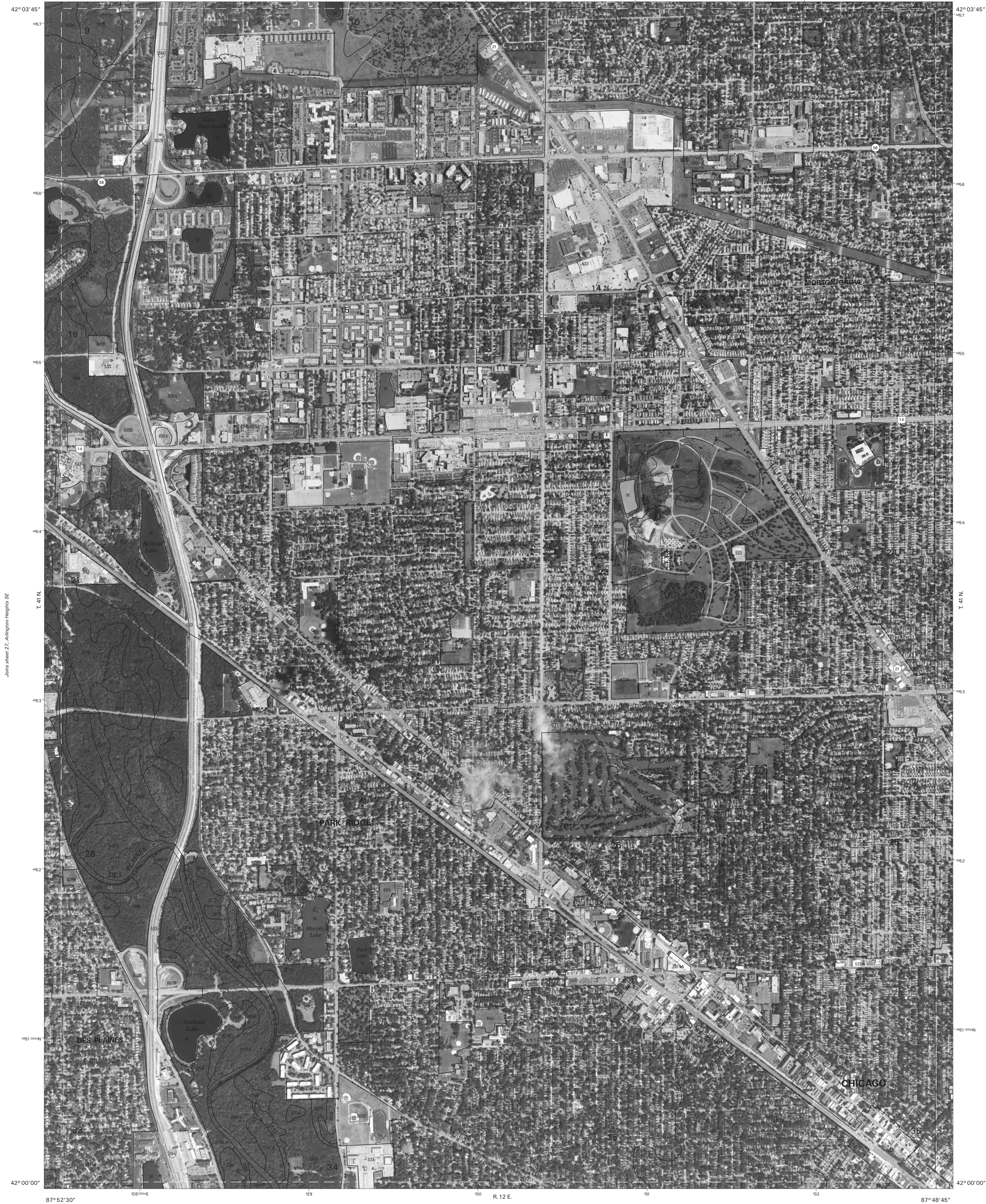
Join sheet 16,
Arlington Heights NE

Join sheet 18,
Park Ridge NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

COOK COUNTY, ILLINOIS
PARK RIDGE SW QUADRANGLE
SHEET NUMBER 28 OF 97

Joins sheet 17, Park Ridge NW
R. 12 E.



Join sheet 27, Arlington Heights SE

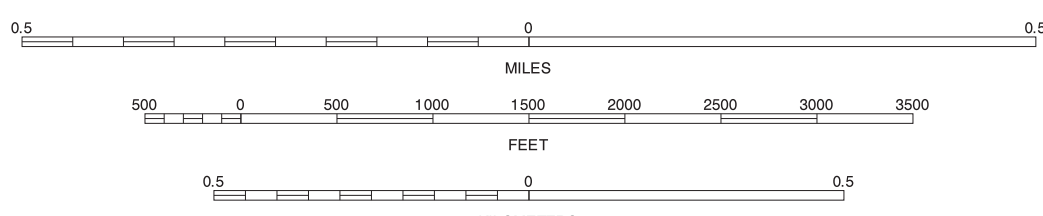
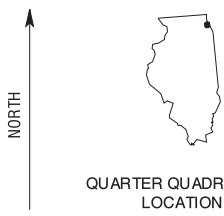
Join sheet 29, Park Ridge SE

Join sheet 39,
Elmhurst NE

Join sheet 40,
River Forest NE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



16	17	18	19
27	28	29	30
38	39	40	41

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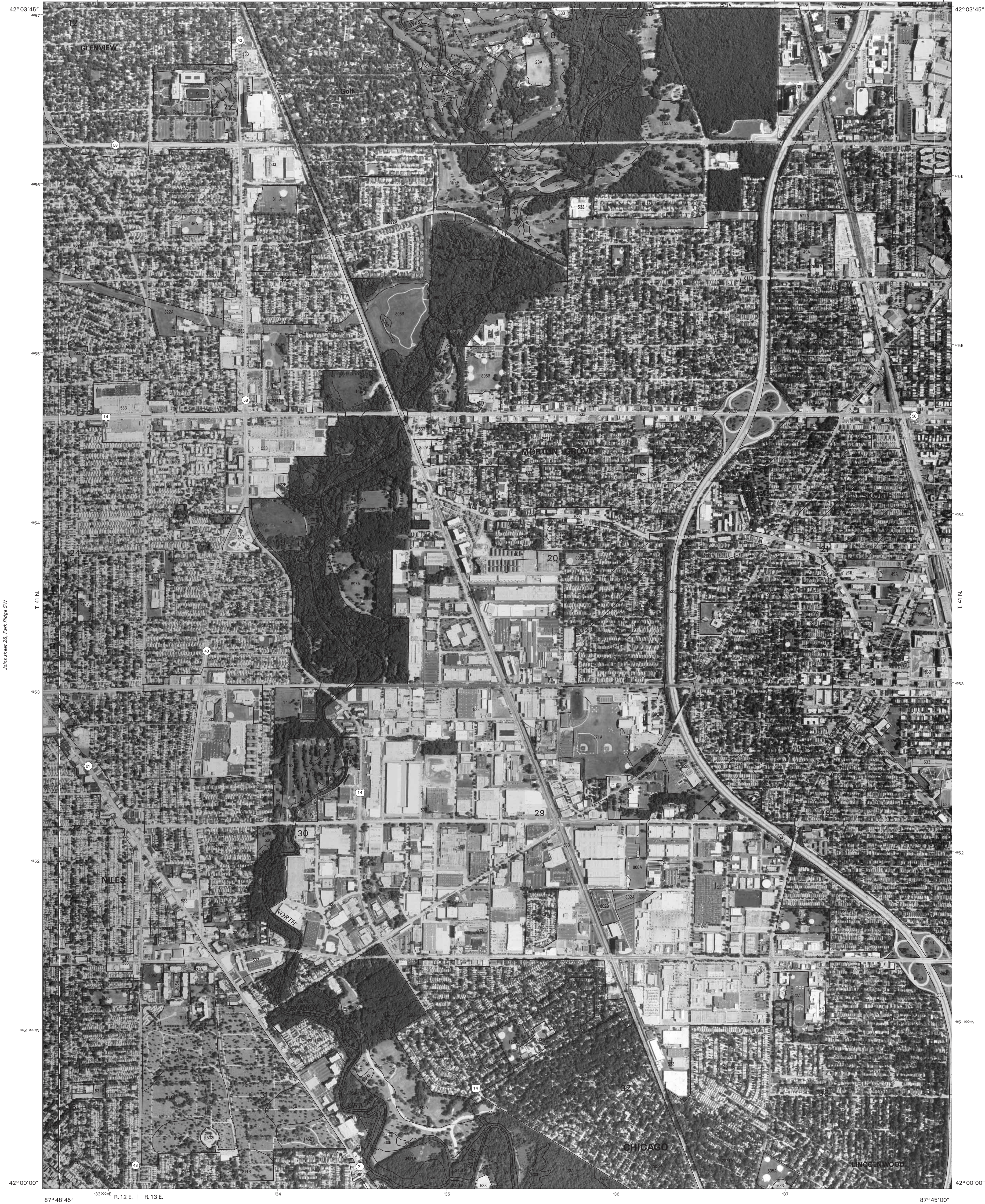
PARK RIDGE SW, ILLINOIS
3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 18, Park Ridge NE

Joins sheet 19,
Evanston NW

Joins sheet 17,
Park Ridge NW



87° 48' 45" R. 12 E. | R. 13 E.

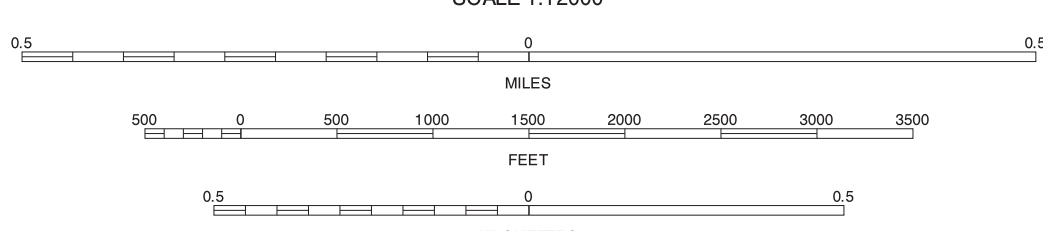
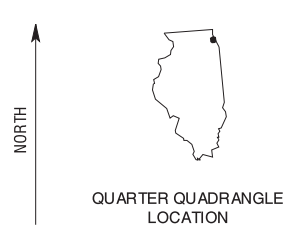
Joins sheet 40, River Forest NE

Joins sheet 11,
Chicago Loop NW

Joins sheet 39,
River Forest NW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

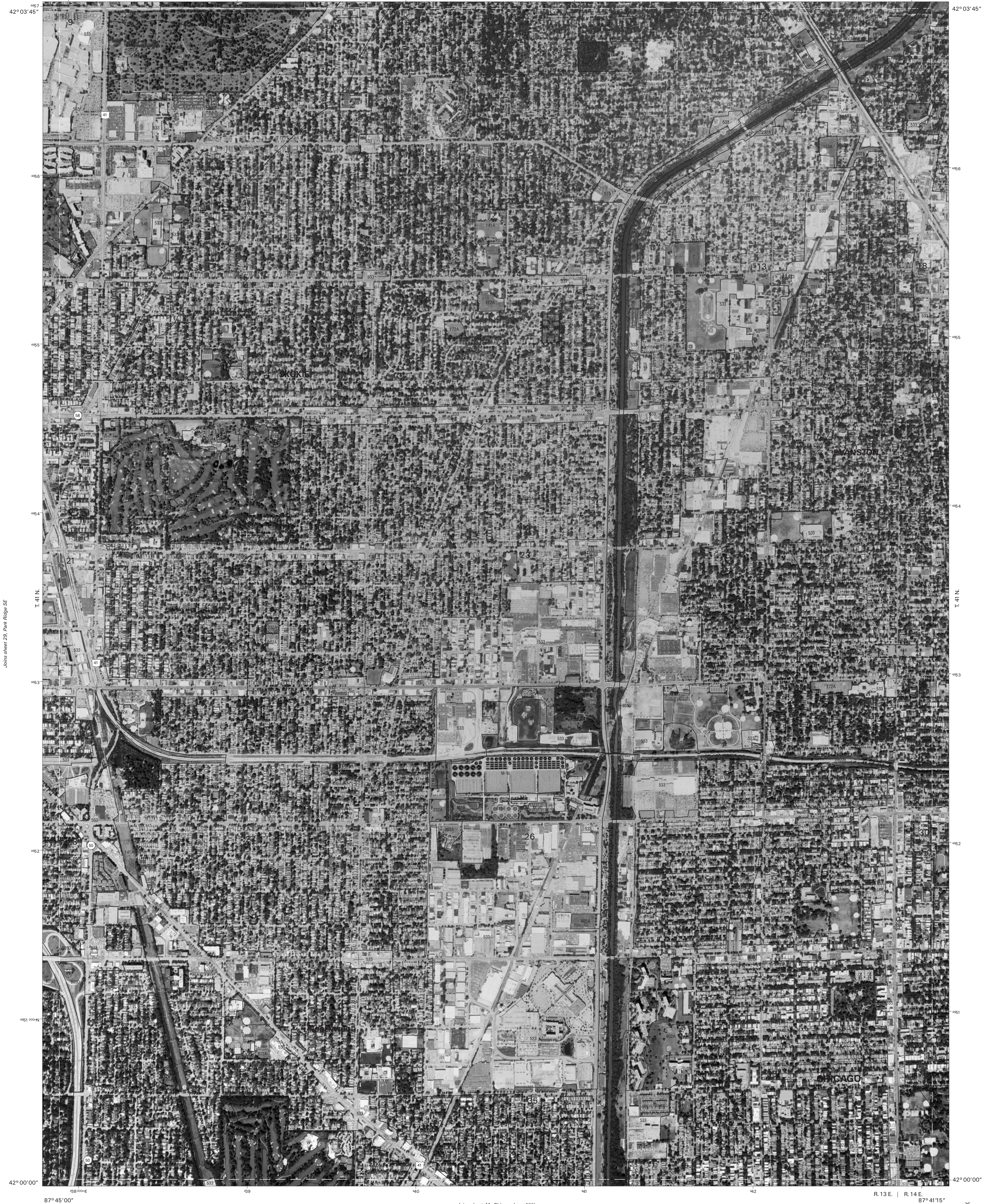


17	18	19
28	30	31
39	40	41

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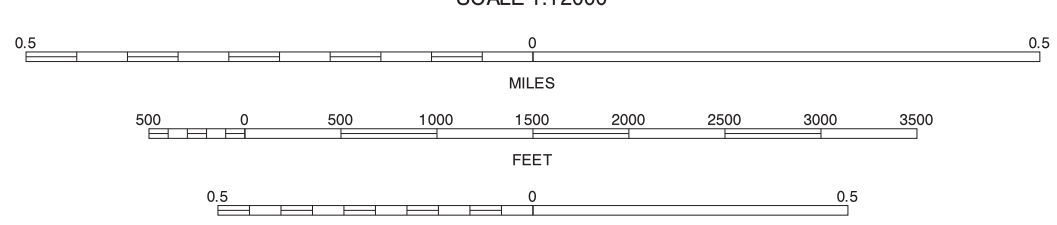
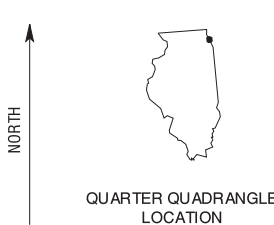
PARK RIDGE SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 29 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



18	19	20	18 PARK RIDGE NE 19 EVANSTON NW 20 EVANSTON NE 29 PARK RIDGE SE
29		31	31 EVANSTON SE 40 RIVER FOREST NE 41 CHICAGO LOOP NW 42 CHICAGO LOOP NE
40	41	42	

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EVANSTON SW, ILLINOIS
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SHEET NUMBER 30 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Joins sheet 19,
Evanston NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 41' 15"

Joins sheet 20, Evanston NE

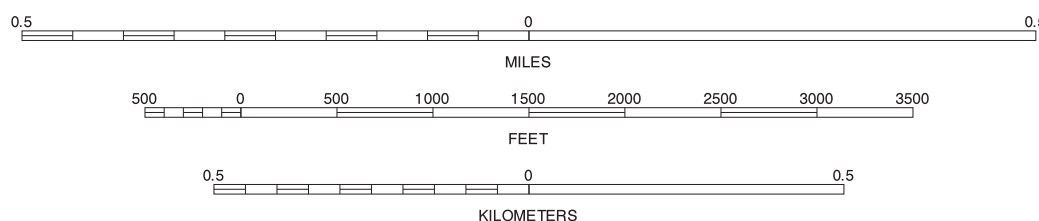
COOK COUNTY, ILLINOIS
EVANSTON SE QUADRANGLE
SHEET NUMBER 31 OF 97
87° 37' 30"



Joins sheet 41,
Chicago Loop NW

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



19	20	19 EVANSTON NW 20 EVANSTON NE
30		30 EVANSTON SW
41	42	41 CHICAGO LOOP NW 42 CHICAGO LOOP NE

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EVANSTON SE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

88°18'45"

Joins sheet 21, Elgin SE

88°15'00"

Joins sheet 22,
Streamwood SW



North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are
approximately positioned. Digital data are available for
this quadrangle.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are
approximately positioned. Digital data are available for
this quadrangle.

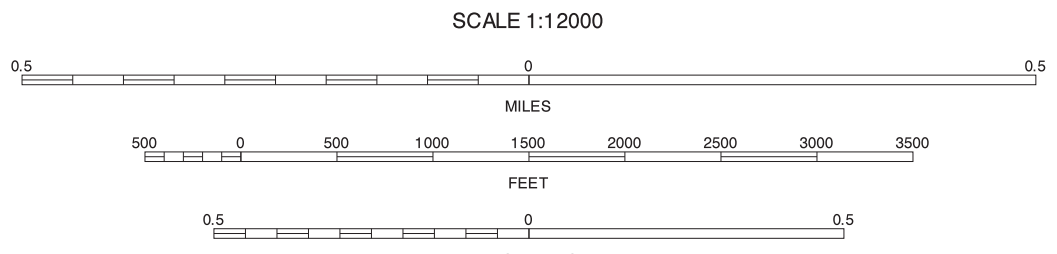
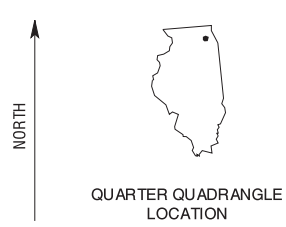
INDEX TO AD JOINING A 75 MARG

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



21	22	23	21 ELGIN SE
			22 STREAMWOOD SW
			23 STREAMWOOD SE
			24 GENEVA NE
			25 WEST CHICAGO NE

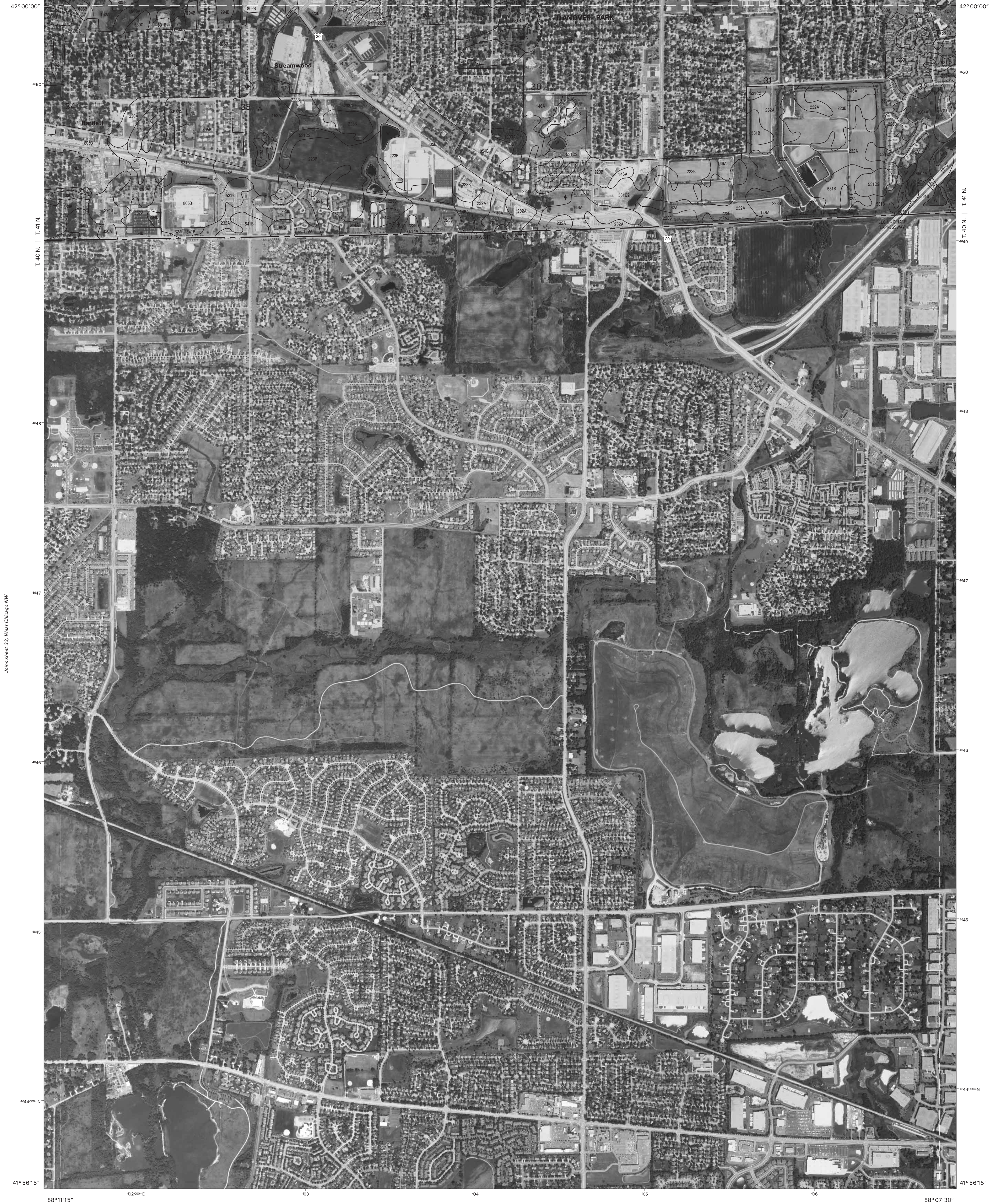
WEST CHICAGO NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 33 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

Joins sheet 23, Streamwood SE

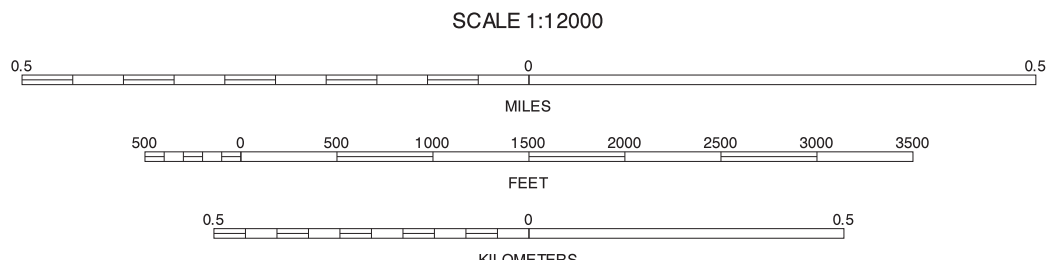
R. 9 E. | R. 10 E.

Joins sheet 24,
Palatine SW



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



22	23	24	22 STREAMWOOD SW 23 STREAMWOOD SE 24 PALATINE SW 25 WEST CHICAGO NW 26 LOMBARD NW
33	34	35	

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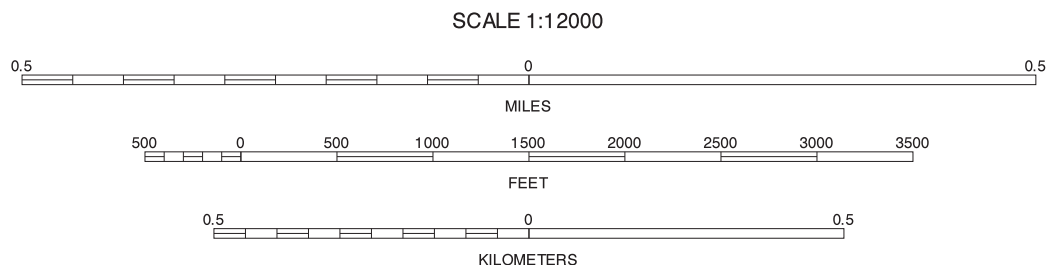
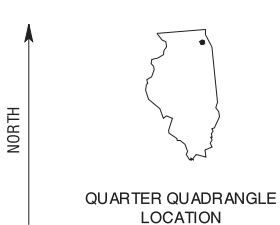
WEST CHICAGO NE, ILLINOIS
3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



23	24	25
34	35	36

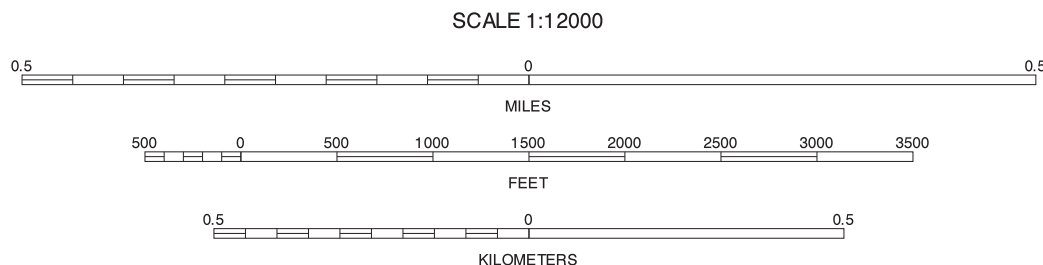
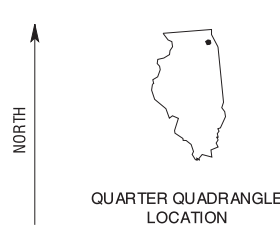
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LOMBARD NW, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

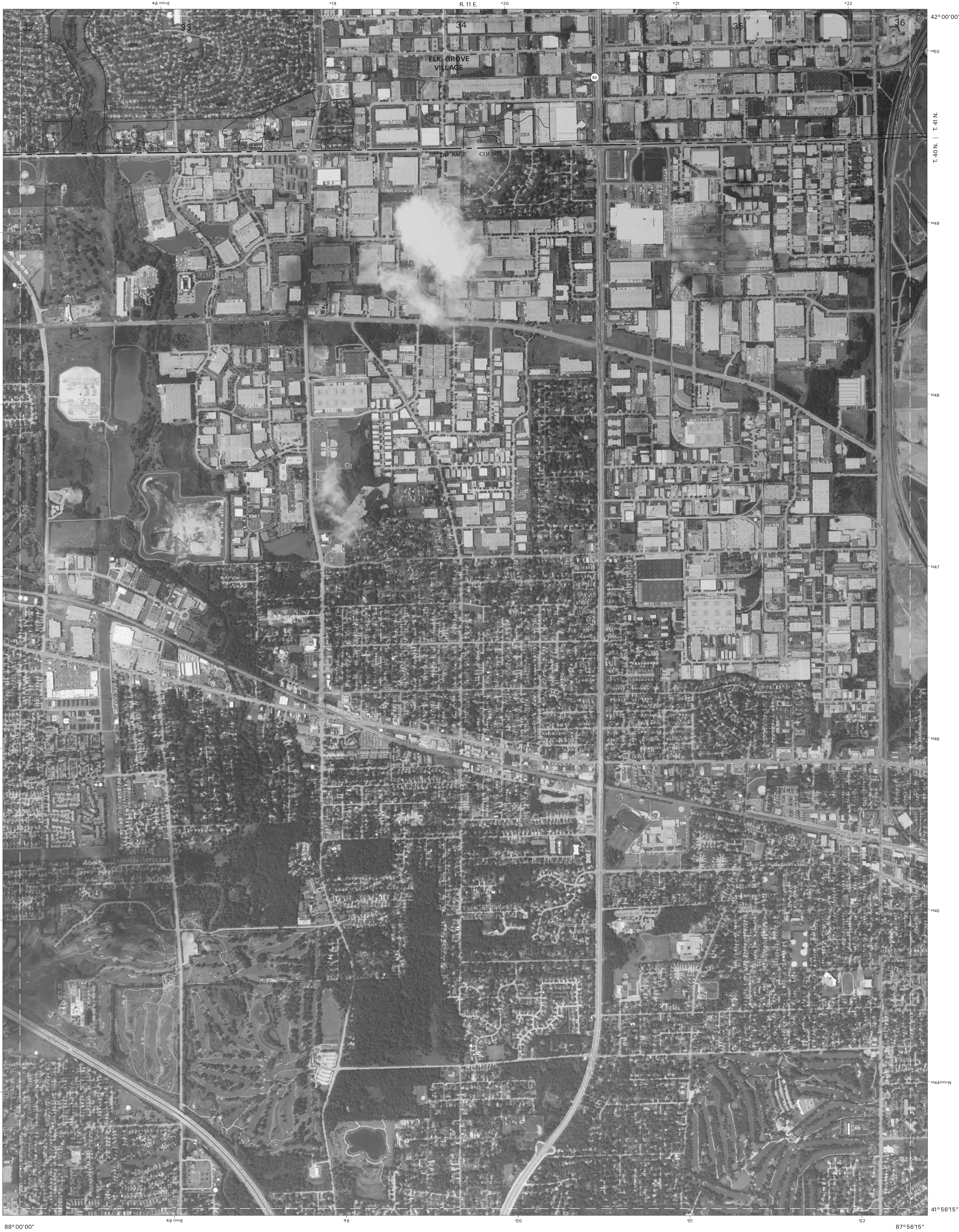


24	25	26	24 PALATINE SW 25 PALATINE SE 26 ARLINGTON HEIGHTS SW
35	36	37	35 LOMBARD NW 37 ELMHURST NW

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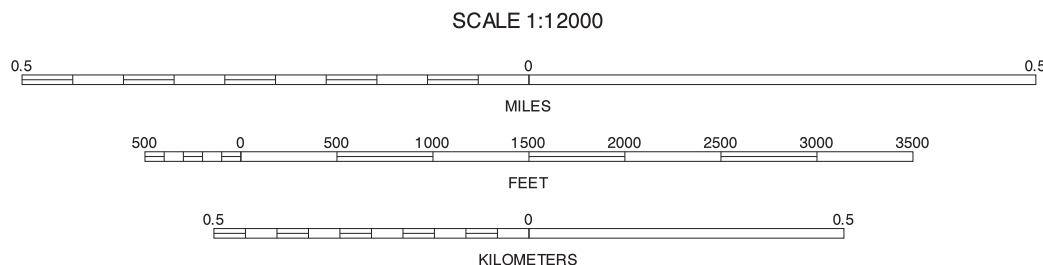
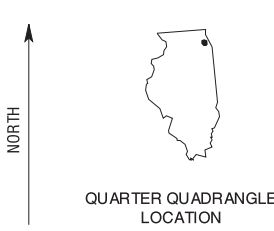
LOMBARD NE, ILLINOIS
3.75 MINUTE SERIES
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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

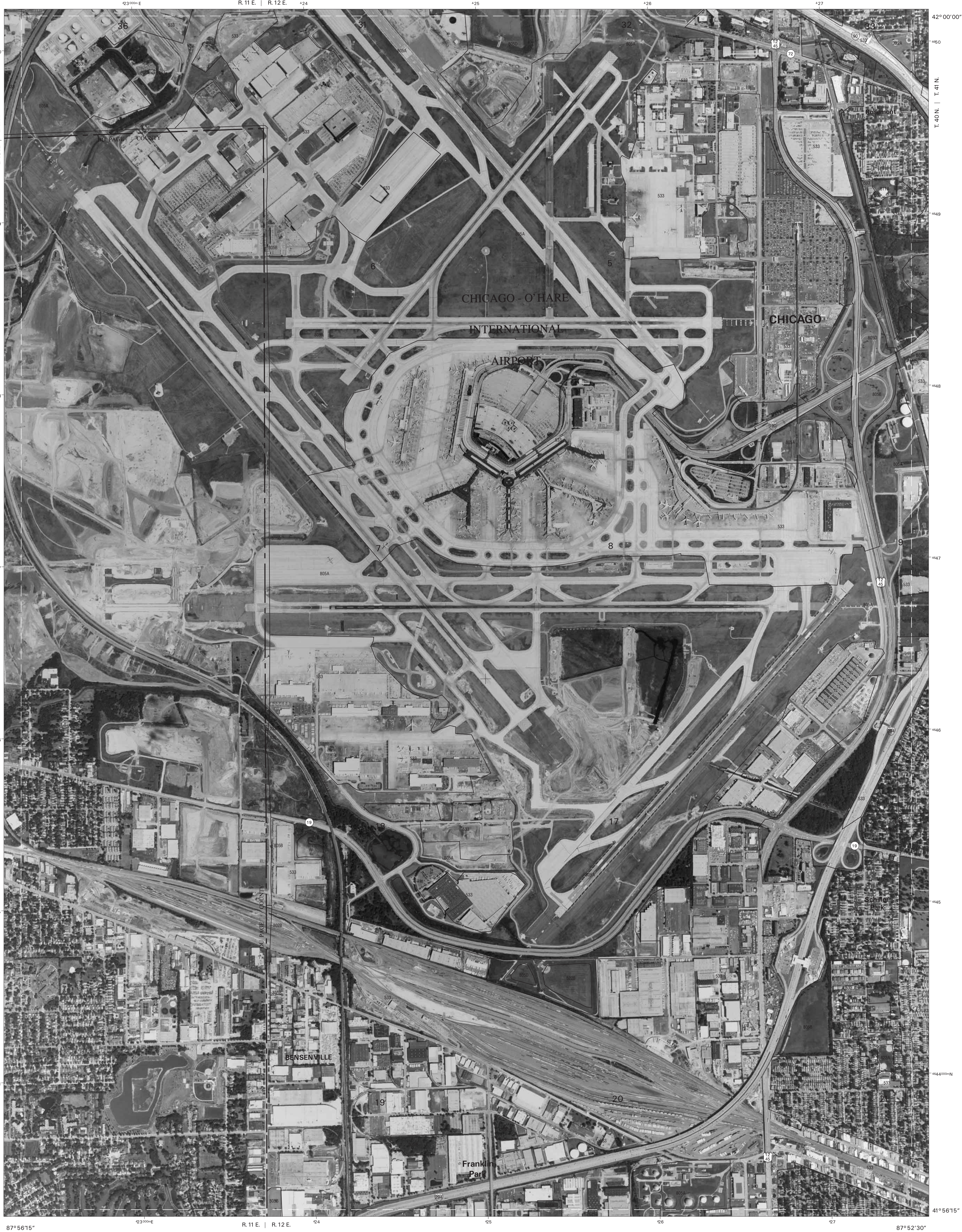


25	26	27	25 PALATINE SE
			26 ARLINGTON HEIGHTS SW
			27 ARLINGTON HEIGHTS SE
36		38	36 LOMBARD NE
			38 ELMHURST NE
		43	43 ELMHURST SE

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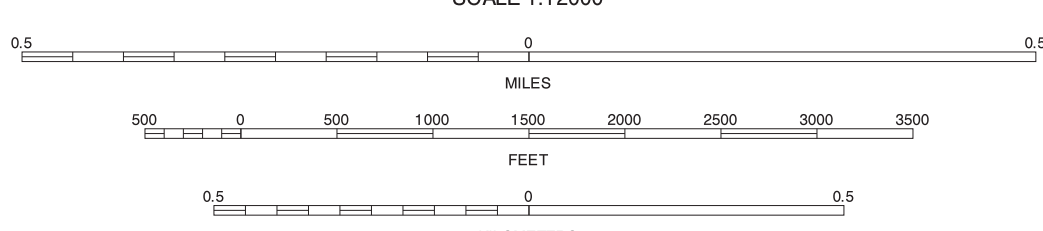
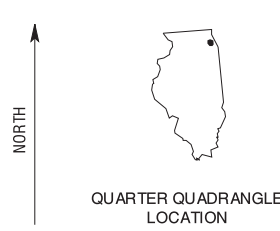
ELMHURST NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 37 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



26	27	28	26 ARLINGTON HEIGHTS SW
			27 ARLINGTON HEIGHTS SE
			28 PARK RIDGE SW
37		39	37 ELMHURST NW
			39 RIVER FOREST NW
	43	44	43 ELMHURST SE
			44 RIVER FOREST SW

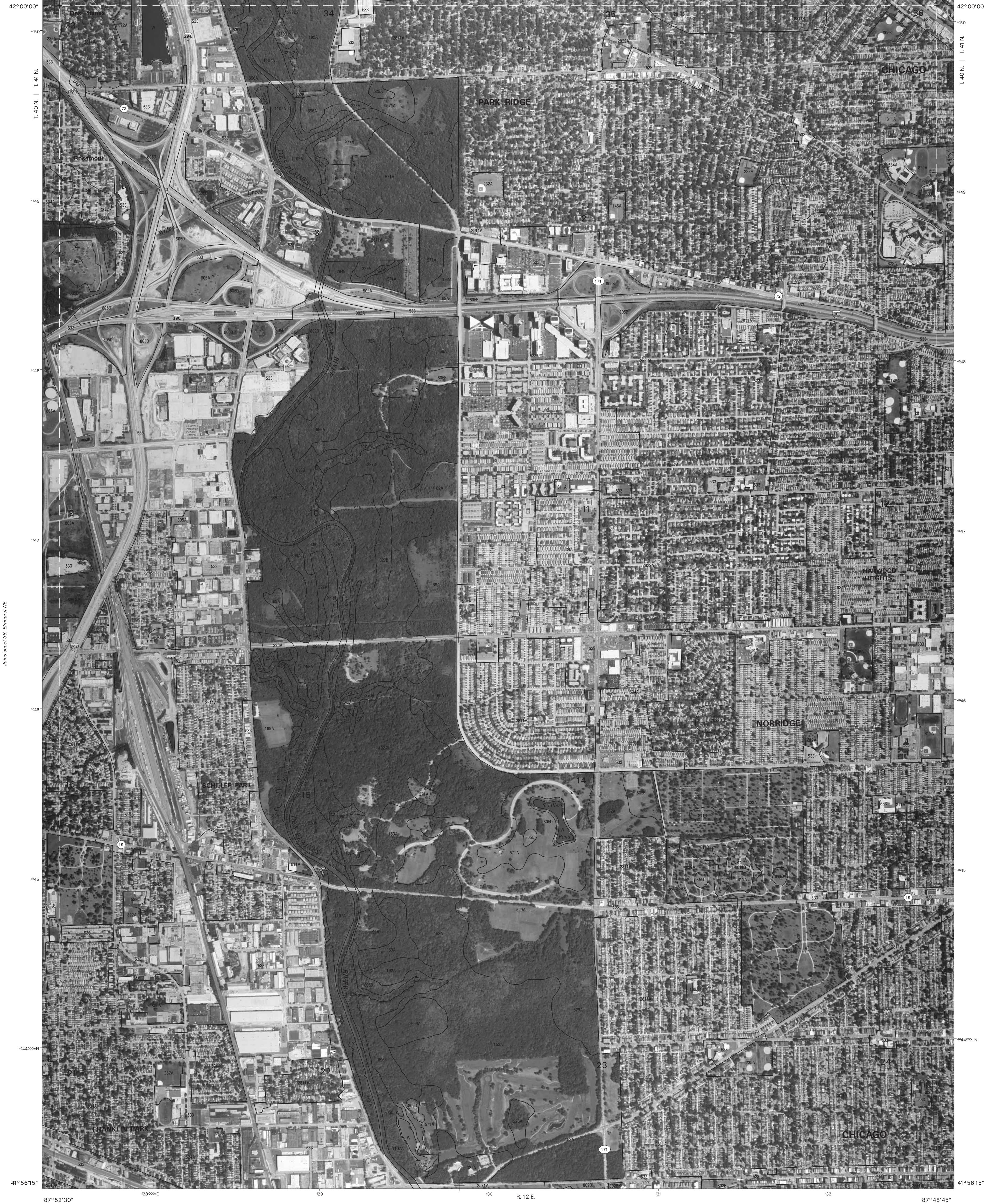
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ELMHURST NE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

Joins sheet 28, Park Ridge SW
R. 12 E.

Joins sheet 29,
Park Ridge SE

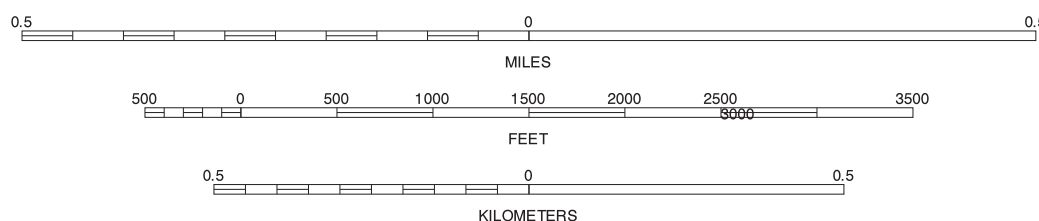


Joins sheet 38, Elmhurst NE

Joins sheet 40, River Forest NE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



27	28	29	27 ARLINGTON HEIGHTS SE
			28 PARK RIDGE SW
			29 PARK RIDGE SE
38		40	38 ELMHURST NE
			40 RIVER FOREST NE
			43 ELMHURST SE
43	44	45	44 RIVER FOREST SW
			45 RIVER FOREST SE

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RIVER FOREST NW, ILLINOIS
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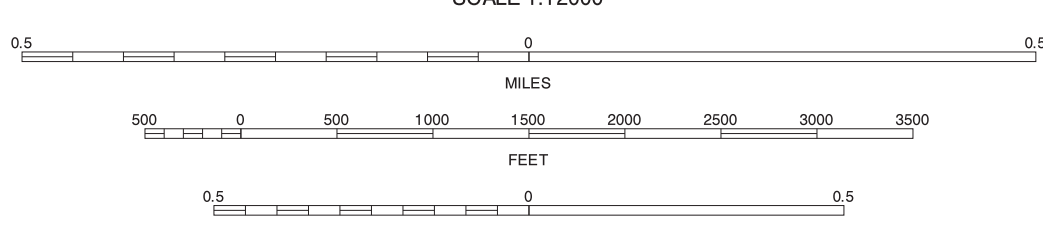
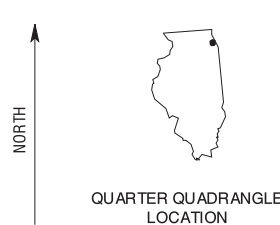
Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

Joins sheet 45,
River Forest SE



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



28	29	30	28 PARK RIDGE SW
			29 PARK RIDGE SE
			30 EVANSTON SW
39		41	39 RIVER FOREST NW
			41 CHICAGO LOOP NW
			44 RIVER FOREST SW
44	45	46	45 RIVER FOREST SE
			46 CHICAGO LOOP SW

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RIVER FOREST NE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

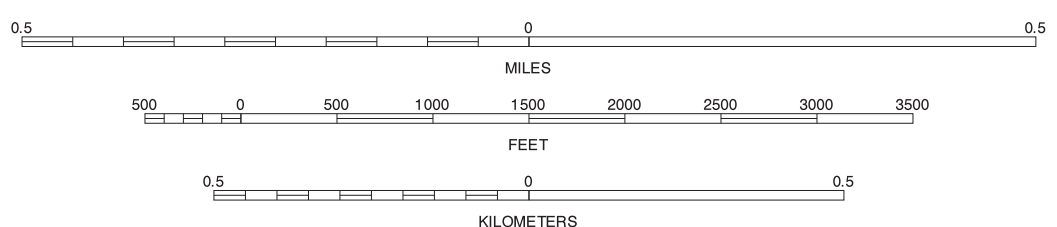


Joins sheet 45,
River Forest SE

A map of the state of Illinois is shown. To the left of the map is a vertical arrow pointing upwards, labeled "NORTH". To the right of the map, in the northeast corner, is a small black dot. Below the dot, the text "QUARTER QUADR LOCATION" is written.

Joins sheet 46, Chicago Loop SW

SCALE 1:12000



29	30	31	29 PARK RIDGE SE
			30 EVANSTON SW
40		42	31 EVANSTON SE
			40 RIVER FOREST
45	46	47	42 CHICAGO LOOP
			45 RIVER FOREST
			46 CHICAGO LOOP
			47 CHICAGO LOOP

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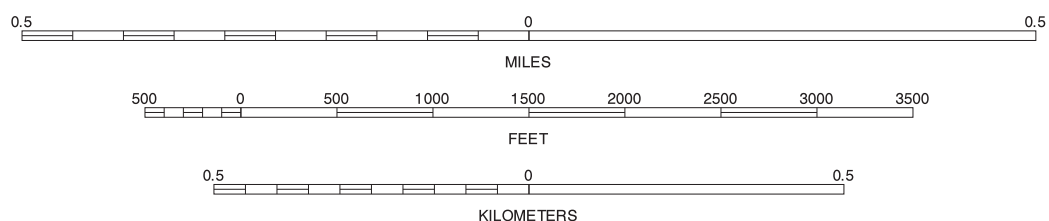
Joins sheet 47's
Chicago Loop

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



30	31	30 EVANSTON SW 31 EVANSTON SE
41		41 CHICAGO LOOP NW
46	47	46 CHICAGO LOOP SW 47 CHICAGO LOOP SE 48 CHICAGO LOOP EAST SW

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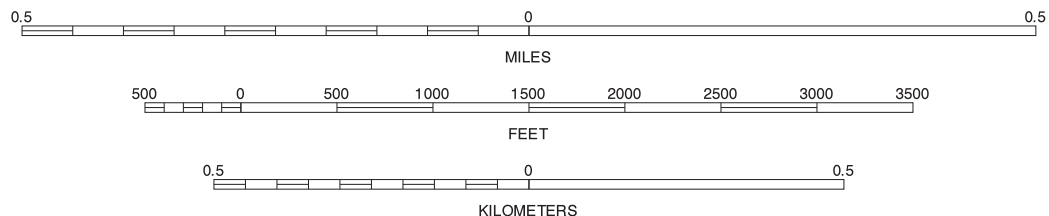
CHICAGO LOOP NE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



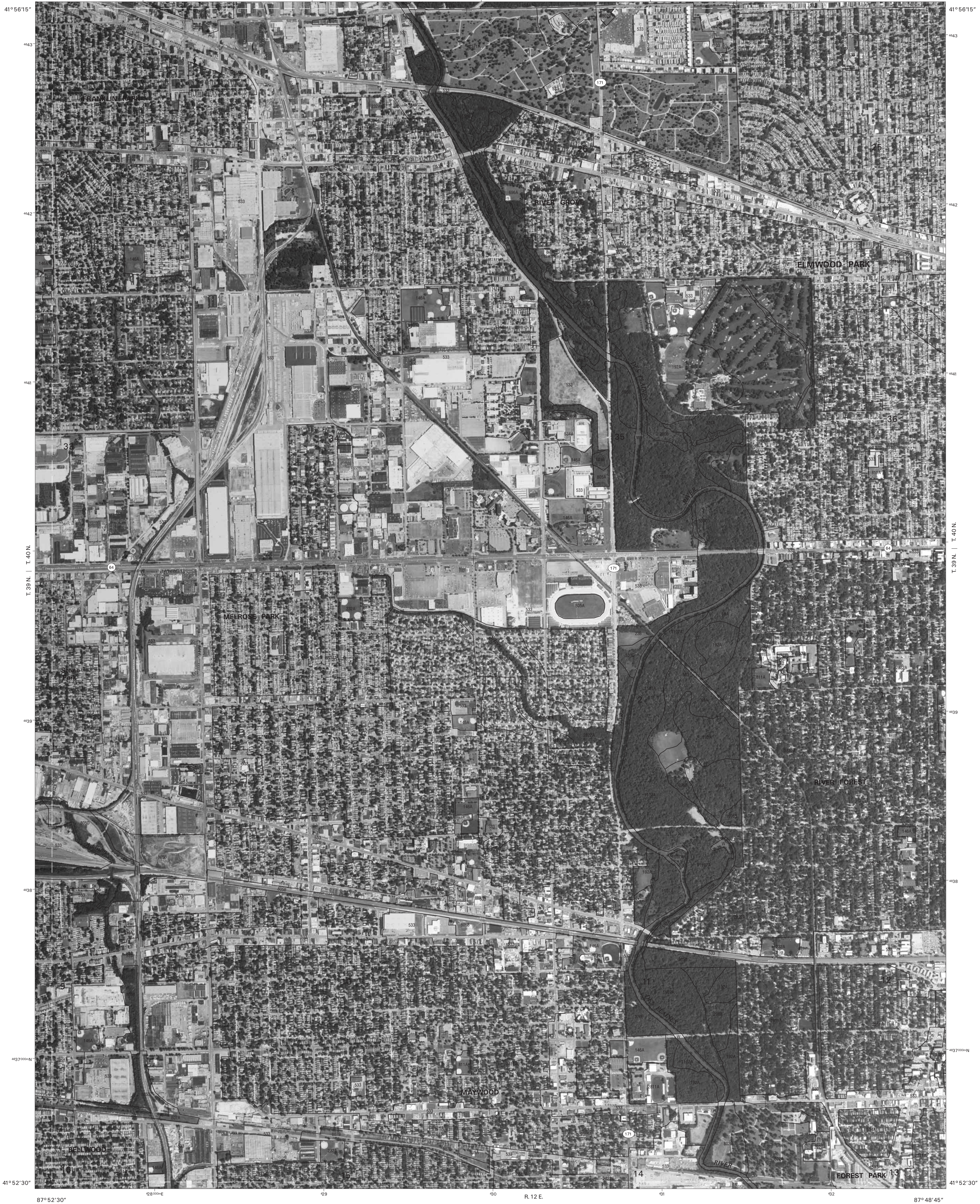
37	38	39	37 ELMHURST NW
			38 ELMHURST NE
			39 RIVER FOREST NW
		44	44 RIVER FOREST SW
	49	50	49 HINSDALE NE
			50 BERWYN NW

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ELMHURST SE, ILLINOIS
3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Join sheet 50,
Berwyn NW



Joins sheet 40, River Forest NE

Joins sheet 41
Chicago Loop NW

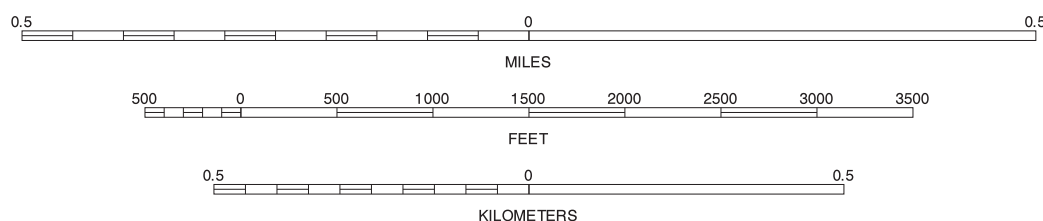
Joins sheet 44, River Forest SW

Joins sheet 46, Chicago Loop SW



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-90 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



39	40	41	39 RIVER FOREST NW
			40 RIVER FOREST NE
44		46	41 CHICAGO LOOP NW
			44 RIVER FOREST SW
50	51	52	46 CHICAGO LOOP SW
			50 BERWYN NW
			51 BERWYN NE
			52 ENGLEWOOD NW

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RIVER FOREST SE, ILLINOIS
3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

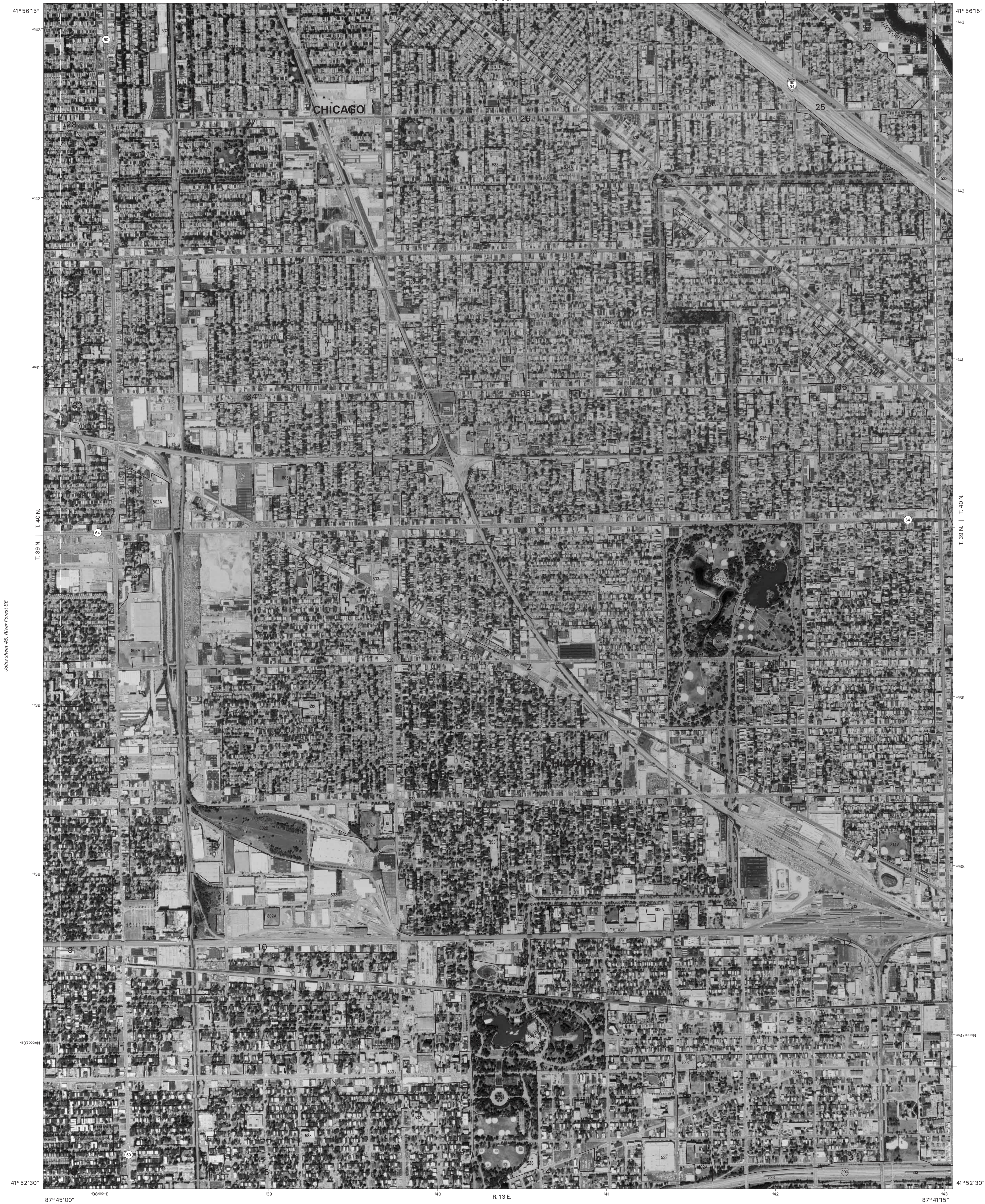
Joins sheet 40
River Forest NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 41, Chicago Loop NW

COOK COUNTY, ILLINOIS
CHICAGO LOOP SW QUADRANGLE
SHEET NUMBER 46 OF 97

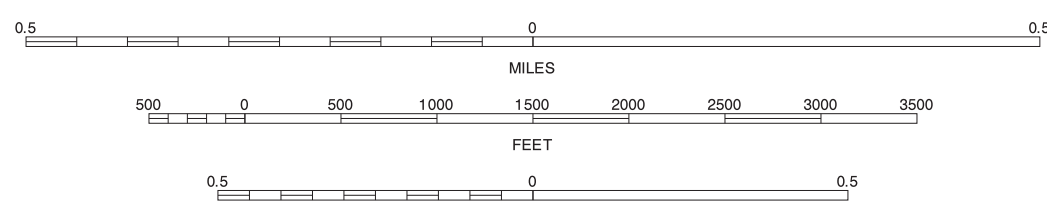
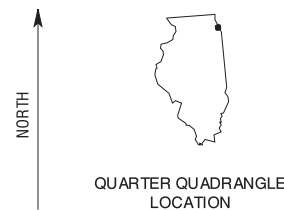
Joins sheet 42 NE
Chicago Loop NE



Joins sheet 51,
Berwyn NE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



40	41	42	40 RIVER FOREST NE
45		47	41 CHICAGO LOOP NW
51	52	53	42 CHICAGO LOOP NE
			45 RIVER FOREST SE
			47 CHICAGO LOOP SE
			51 BERWYN NE
			52 ENGLEWOOD NW
			53 ENGLEWOOD NE

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CHICAGO LOOP SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 46 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

Joins sheet 53
Englewood NE



Joins sheet 48, Chicago Loop East SW

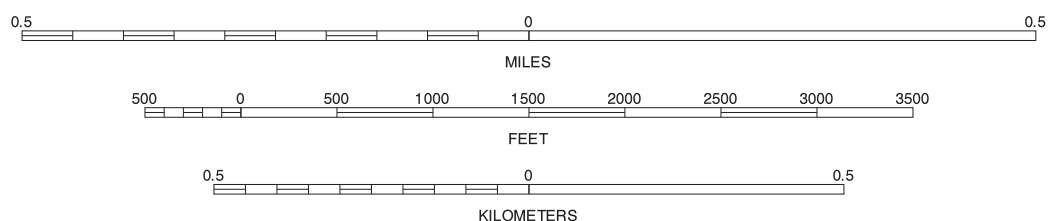
Joins sheet 52,
Englewood NW

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

Joins sheet 53, Englewood NE

R. 14 E.



41	42		41 CHICAGO LOOP NW 42 CHICAGO LOOP NE
46		48	46 CHICAGO LOOP SW 48 CHICAGO LOOP EAST SW
52	53	54	52 ENGLEWOOD NW 53 ENGLEWOOD NE 54 JACKSON PARK NW

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CHICAGO LOOP SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 47 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 42,
Chicago Loop NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 37' 30"

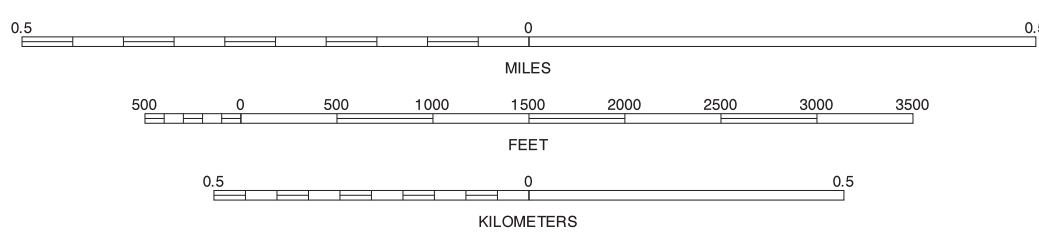
COOK COUNTY, ILLINOIS
CHICAGO LOOP EAST SW QUADRANGLE
SHEET NUMBER 48 OF 97
87° 33' 45"



Joins sheet 53,
Englewood NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



42		42 CHICAGO LOOP NE
47		47 CHICAGO LOOP SE
53	54	53 ENGLEWOOD NE 54 JACKSON PARK NW

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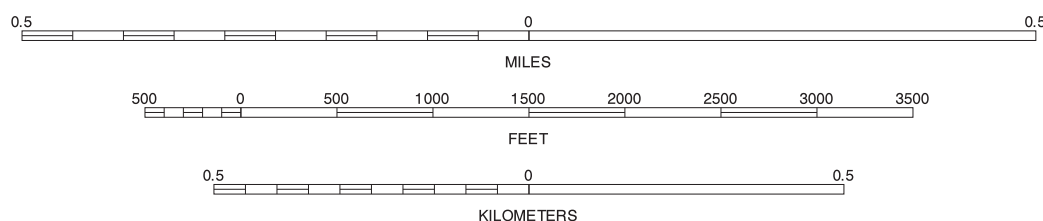
CHICAGO LOOP EAST SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 48 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-90 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



43	44	43 ELMHURST SE
		44 RIVER FOREST SW
	50	50 BERWYN NW
55	56	55 HINSDALE SE
		56 BERWYN SW

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HINSDALE NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 49 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

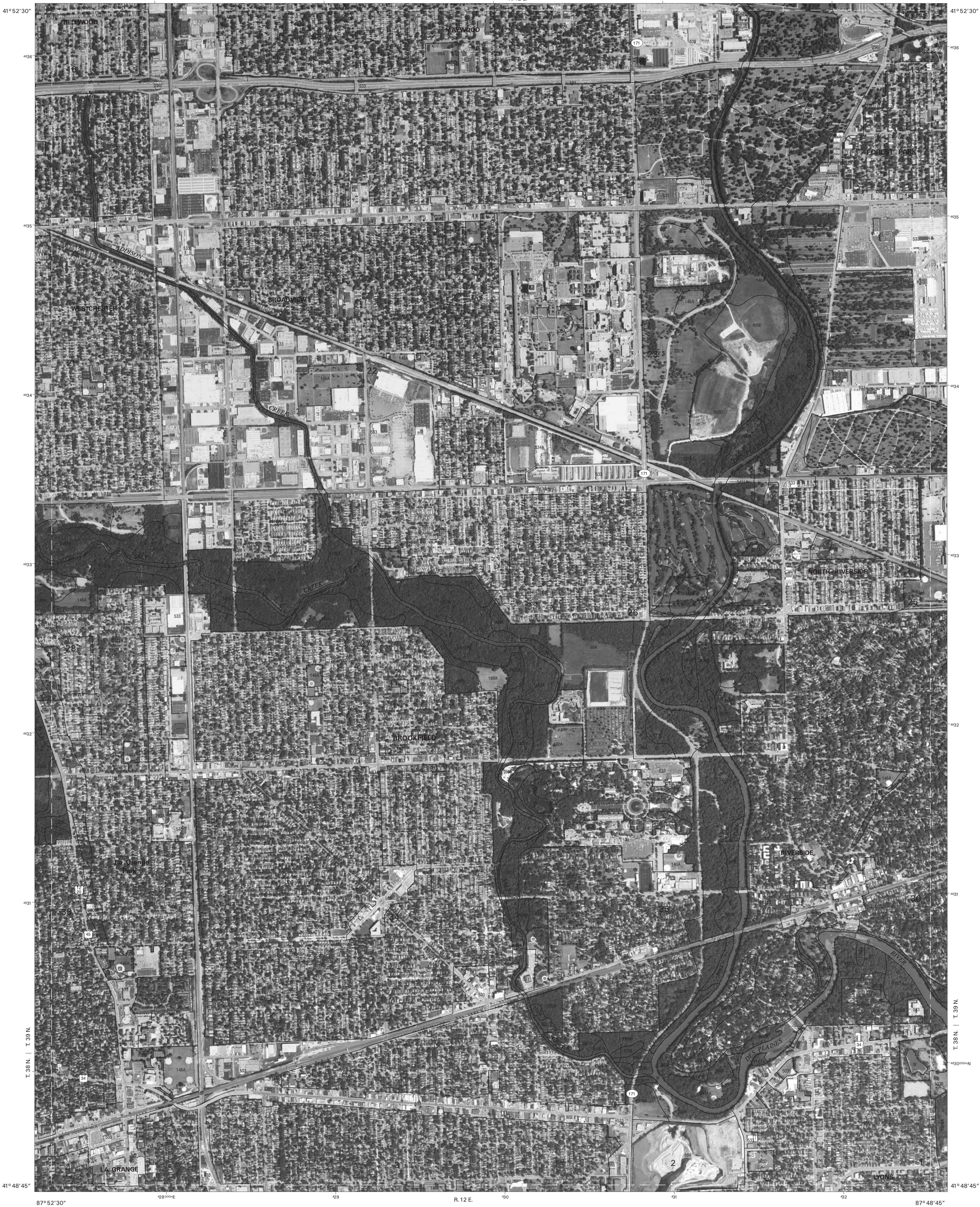
Joins sheet 43, Elmhurst SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 44, River Forest SW
R. 12 E.

COOK COUNTY, ILLINOIS
BERWYN NW QUADRANGLE
SHEET NUMBER 50 OF 97

Joins sheet 45, River Forest SE



Joins sheet 49, Hinsdale NE

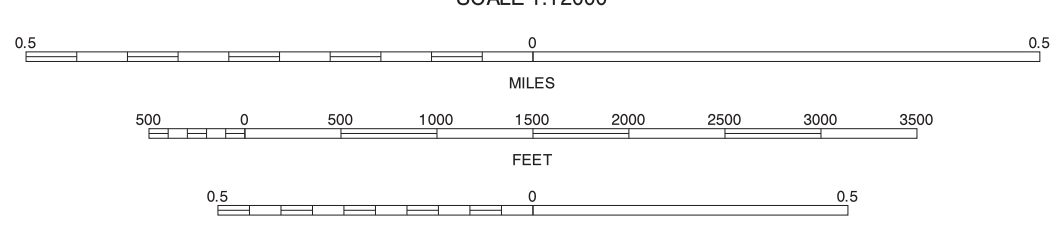
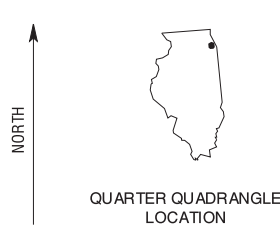
Joins sheet 51, Berwyn NE

Joins sheet 55, Hinsdale SE

Joins sheet 57, Berwyn SE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-90 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

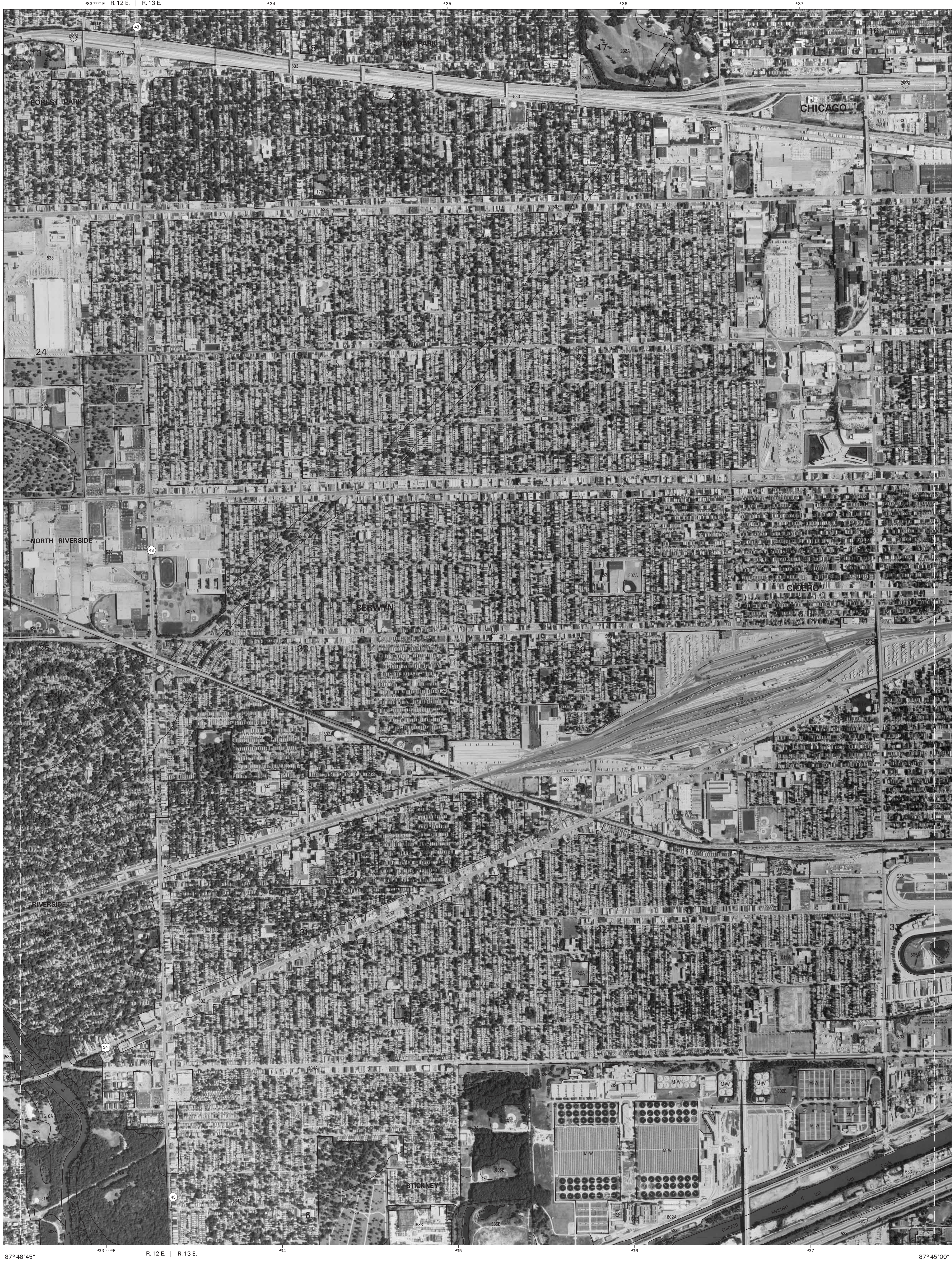


43	44	45	43 ELMHURST SE
			44 RIVER FOREST SW
			45 RIVER FOREST SE
49	50	51	49 HINSDALE NE
			50 BERWYN NE
			51 HINSDALE SE
55	56	57	55 BERWYN SW
			56 BERWYN SE

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BERWYN NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 50 OF 97

Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.



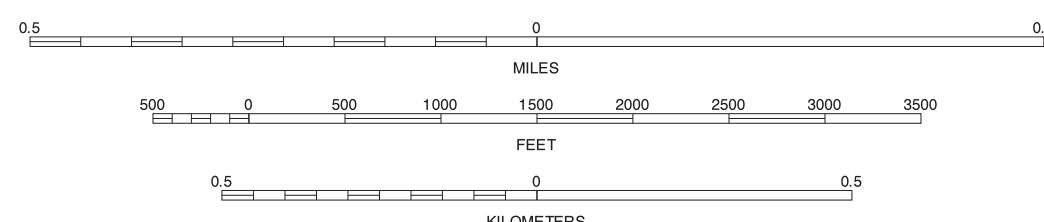


Joins sheet 53, Englewood NE

Joins sheet 57,
Berwyn SE

A map of the state of Illinois is shown. To the left of the map is a vertical arrow pointing upwards, labeled "NORTH". A small black dot is located in the northern part of the state, representing the location of the quarter quadrangle.

QUARTER QUADRANGLE
LOCATION



45	46	47	45 RIVER FOREST SE
			46 CHICAGO LOOP S
			47 CHICAGO LOOP S
51		53	51 BERWYN NE
			53 ENGLEWOOD NE
			57 BERWYN SE
57	58	59	58 ENGLEWOOD SW
			59 ENGLEWOOD SE

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ENGLEWOOD NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 52 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

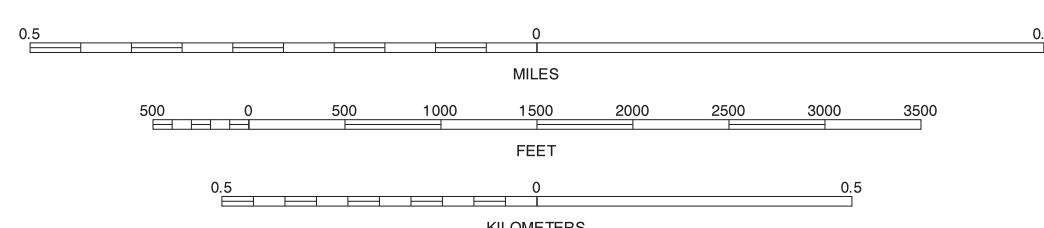
Joins sheet 53
Englewood SE



Joins sheet 58,
Englewood SW

Joins sheet 59, Englewood SE

SCALE 1:12000



46	47	48	46 CHICAGO LOOP SW 47 CHICAGO LOOP SE
52		54	48 CHICAGO LOOP EAST SW 52 ENGLEWOOD NW 54 JACKSON PARK NW
58	59	60	58 ENGLEWOOD SW 59 ENGLEWOOD SE 60 JACKSON PARK SW

INDEX TO ADJOINING LOT MAPS

ENGLEWOOD NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 53 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet b
Jackson Park S

Joins sheet 47
Chicago Loop SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 48, Chicago Loop East SW

COOK COUNTY, ILLINOIS
JACKSON PARK NW QUADRANGLE
SHEET NUMBER 54 OF 97



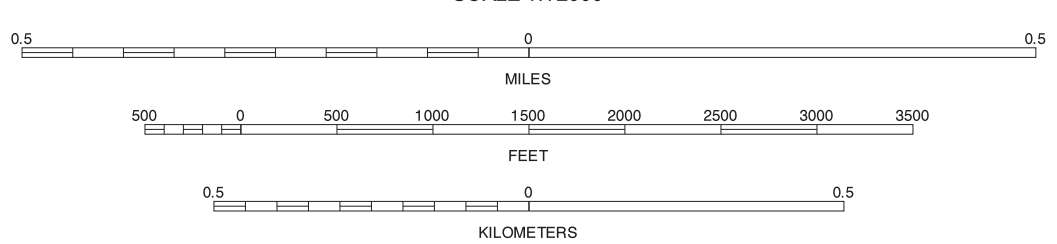
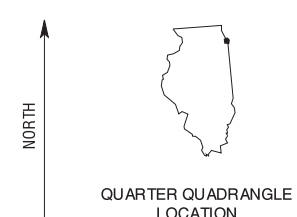
Joins sheet 53, Englewood NE

Joins sheet 61,
Jackson Park SE

Joins sheet 59
Englewood SE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-90 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

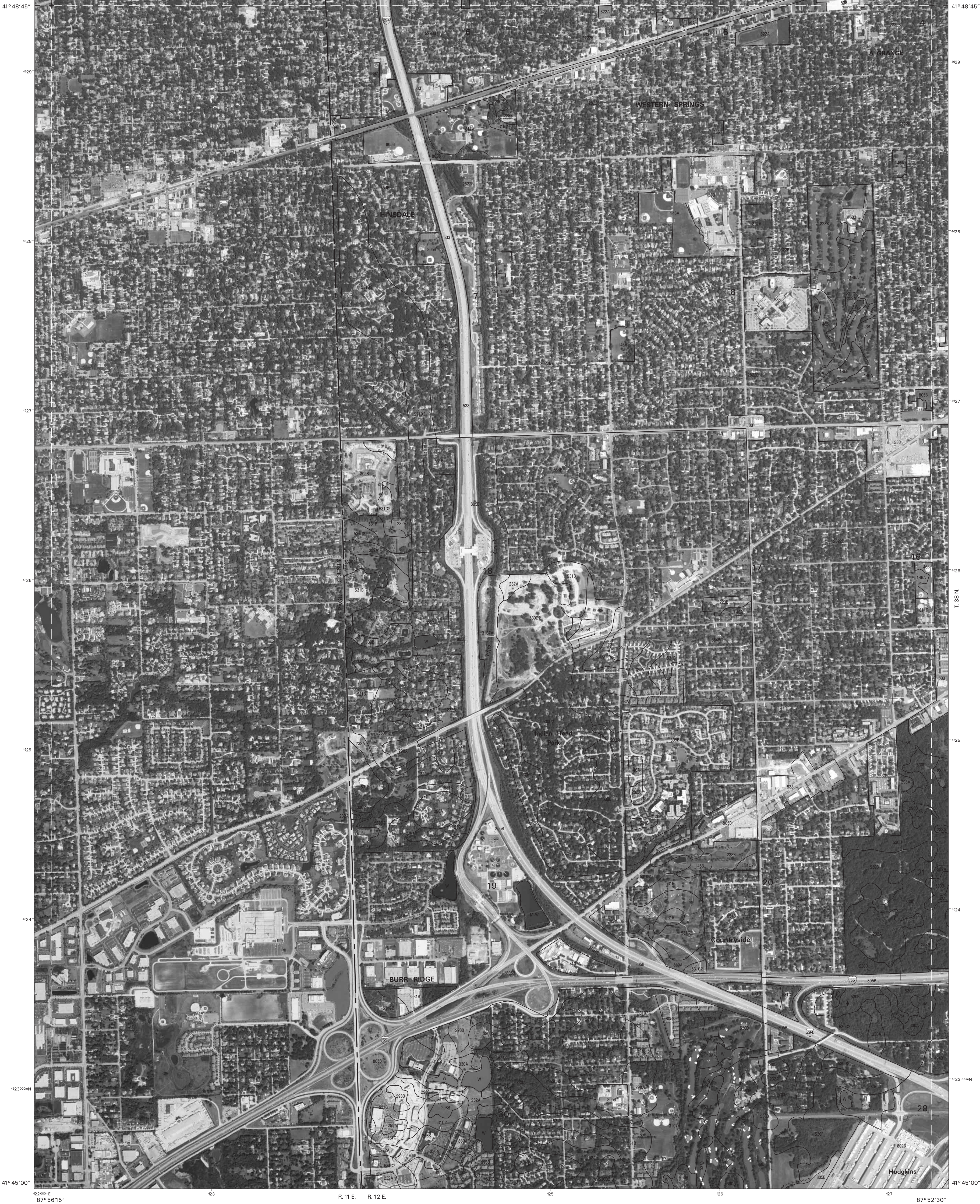


47	48	47 CHICAGO LOOP SE 48 CHICAGO LOOP EAST SW
53		53 ENGLEWOOD NE
59	60	59 ENGLEWOOD SE 60 JACKSON PARK SW 61 JACKSON PARK SE

JACKSON PARK NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 54 OF 97

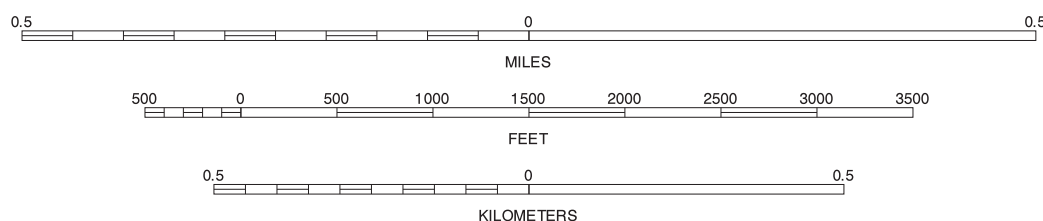
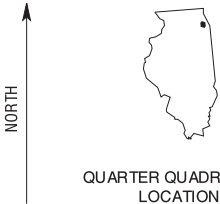
Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

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This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



49	50	49 HINSDALE NE
	50	50 BERWYN NW
	56	56 BERWYN SW
62	63	62 SAG BRIDGE NW
	64	63 SAG BRIDGE NE
		64 PALOS PARK NW

INDEX TO ADJOINING 3.75 MAPS

HINSDALE SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 55 OF 97

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.

Joins sheet 49
Hinsdale NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 50, Berwyn NW

COOK COUNTY, ILLINOIS
BERWYN SW QUADRANGLE
SHEET NUMBER 56 OF 97

Joins sheet 51,
Berwyn NE



Joins sheet 55, Hinsdale SE

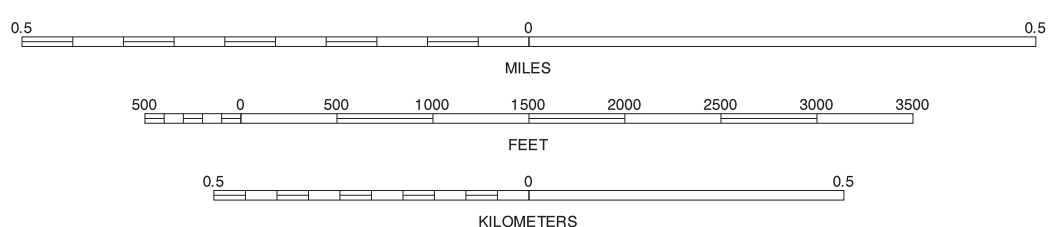
Joins sheet 57, Berwyn SE

Joins sheet 62
Sag Bridge NE

Joins sheet 65,
Palos Park NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

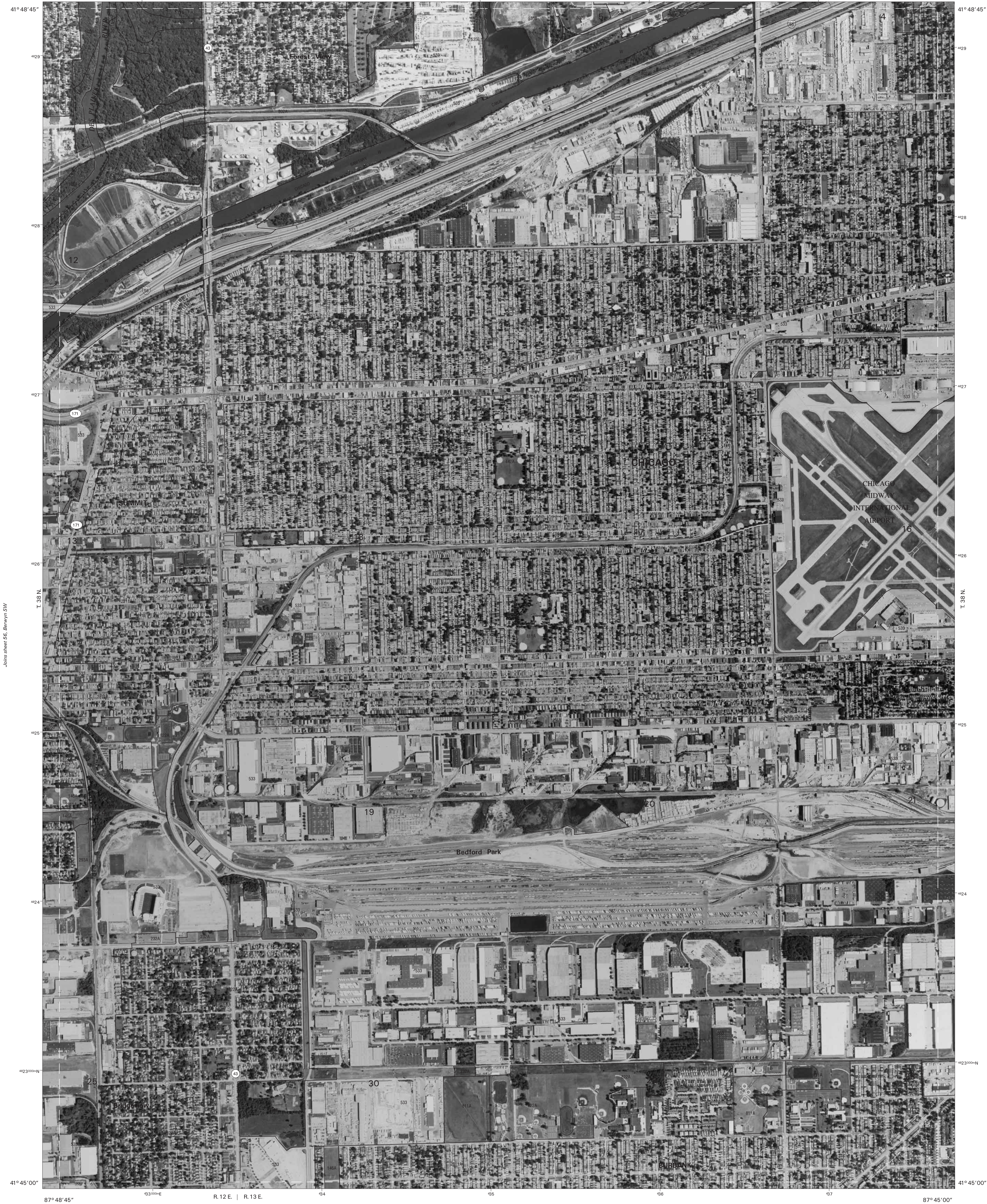


49	50	51	49 HINSDALE NE
			50 BERWYN NW
			51 BERWYN NE
55		57	55 HINSDALE SE
			57 BERWYN SE
			63 SAG BRIDGE NE
			64 PALOS PARK NW
63	64	65	65 PALOS PARK NE

INDEX TO ADJOINING 3.75 MAPS

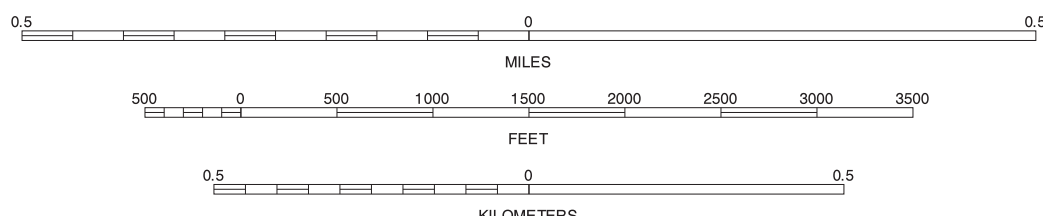
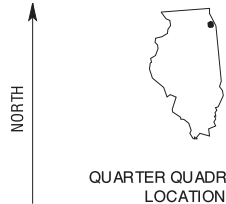
BERWYN SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 56 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



50	51	52	50 BERWYN NW
			51 BERWYN NE
			52 ENGLEWOOD NW
			56 BERWYN SW
			58 ENGLEWOOD SW
			54 PALOS PARK NW
			65 PALOS PARK NE
			66 BLUE ISLAND NW

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BERWYN SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 57 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

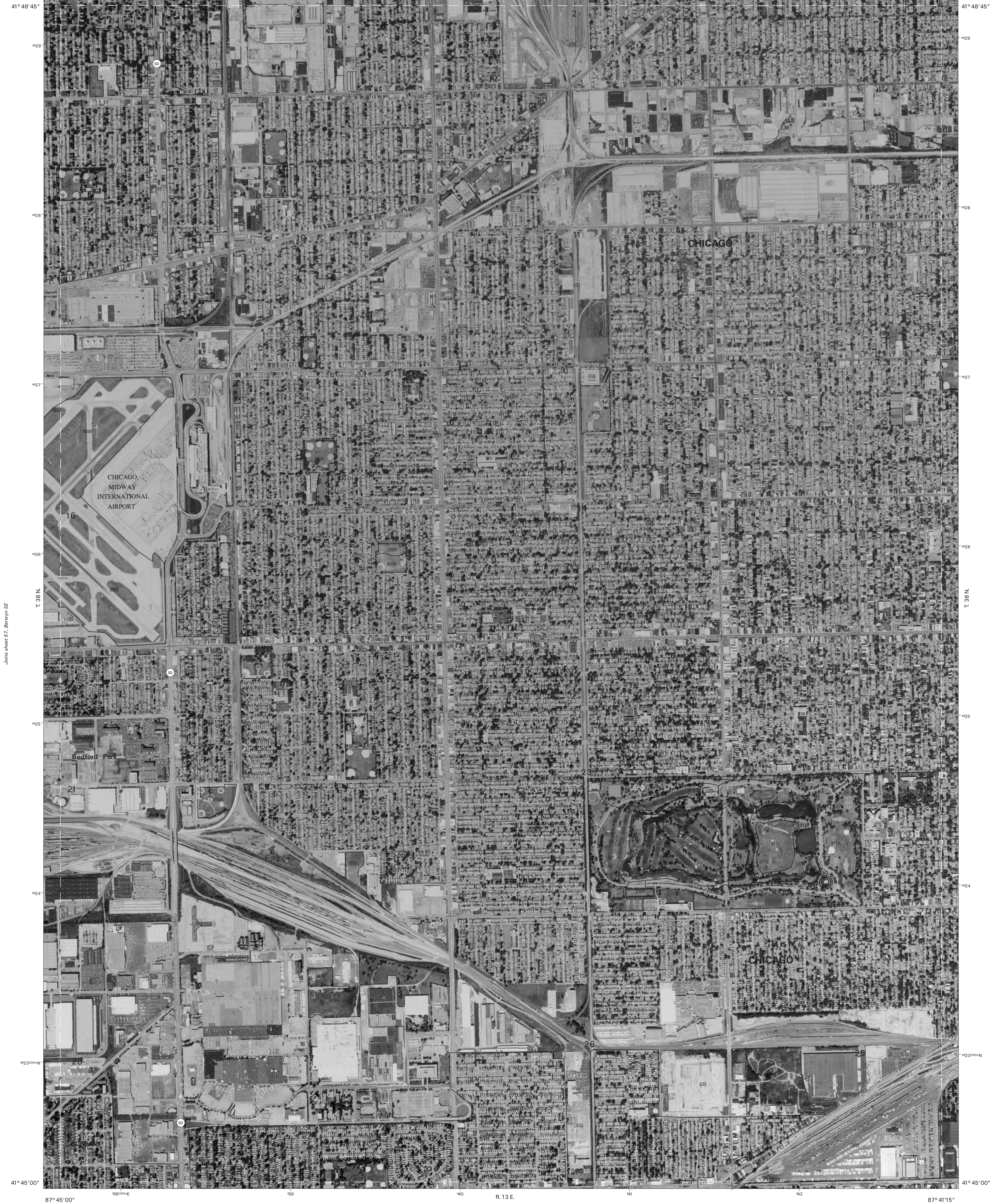
Joins sheet 51,
Berwyn NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 45' 00"

Joins sheet 52, Englewood NW
R. 13 E.

COOK COUNTY, ILLINOIS
ENGLEWOOD SW QUADRANGLE
SHEET NUMBER 58 OF 97
87° 41' 15"

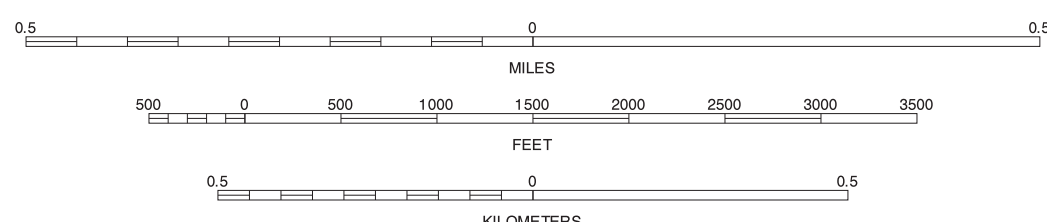
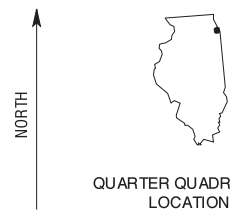
Joins sheet 53,
Englewood NE



Joins sheet 55,
Palos Park NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



51	52	53
57	58	59
65	66	67

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ENGLEWOOD SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 58 OF 97

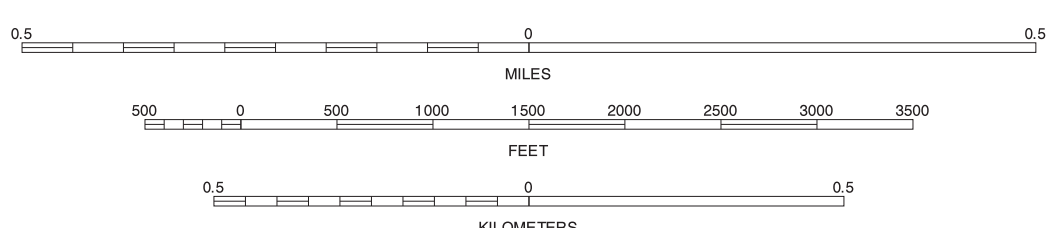
Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

Joins sheet 62,
Blue Island NE



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are
approximately positioned. Digital data are available for
this quadrangle.

QUARTER QUADRANGLE
LOCATION

52	53	54	52 ENGLEWOOD NW
			53 ENGLEWOOD NE
			54 JACKSON PARK NW
58		60	58 ENGLEWOOD SW
			60 JACKSON PARK SW
			66 BLUE ISLAND NW
66	67	68	67 BLUE ISLAND NE
			68 LAKE CALUMET NW

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ENGLEWOOD SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 59 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 52
Englewood NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 54, Jackson Park NW

COOK COUNTY, ILLINOIS
JACKSON PARK SW QUADRANGLE
SHEET NUMBER 60 OF 97



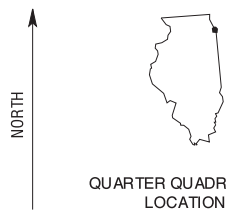
Joins sheet 59, Englewood SE

Joins sheet 61, Jackson Park SE

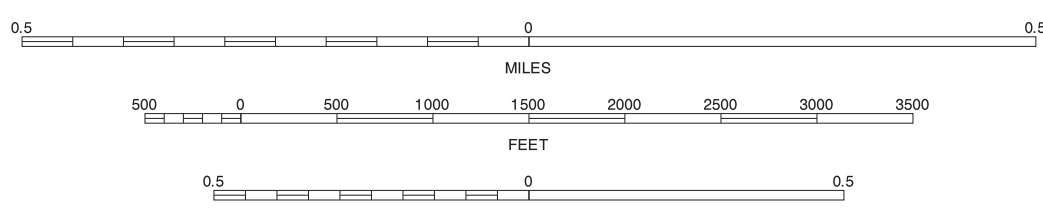
Joins sheet 67
Blue Island NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE
LOCATION



53	54	53 ENGLEWOOD NE 54 JACKSON PARK NW
59	61	59 ENGLEWOOD SE 61 JACKSON PARK SE
67	68	67 BLUE ISLAND NE 68 LAKE CALUMET NW 69 LAKE CALUMET NE

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JACKSON PARK SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 60 OF 97

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.

Joins sheet 69
Lake Calumet NE

Joins sheet 54,
Jackson Park NW

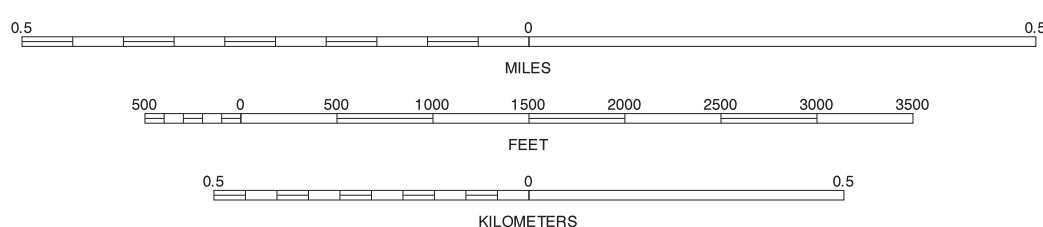
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 33' 45"

COOK COUNTY, ILLINOIS
JACKSON PARK SE QUADRANGLE
SHEET NUMBER 61 OF 97
87° 30' 00"



Joins sheet 68,
Lake Calumet NW

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography. North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

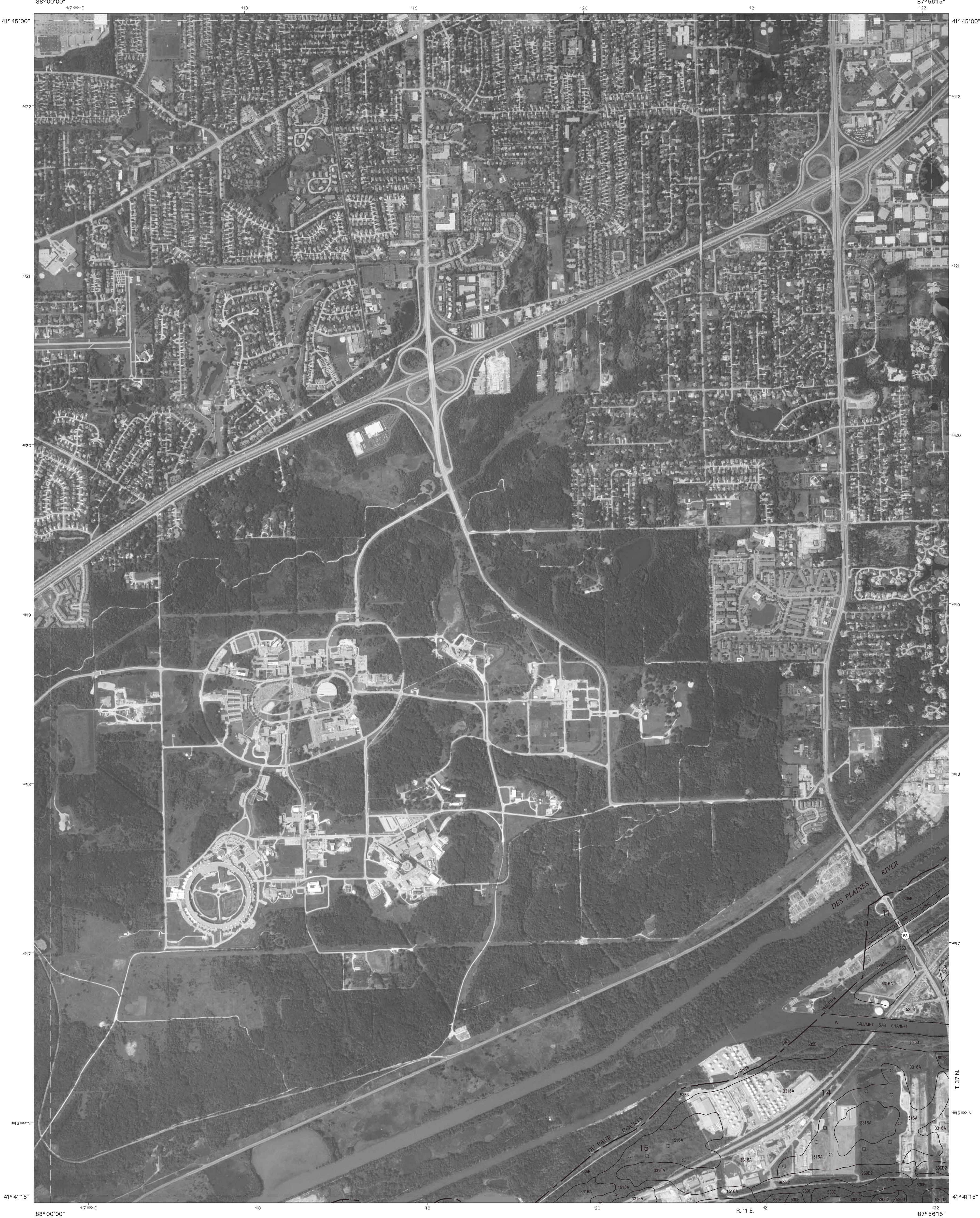


54		54 JACKSON PARK NW
60		60 JACKSON PARK SW
68	69	68 LAKE CALUMET NW 69 LAKE CALUMET NE

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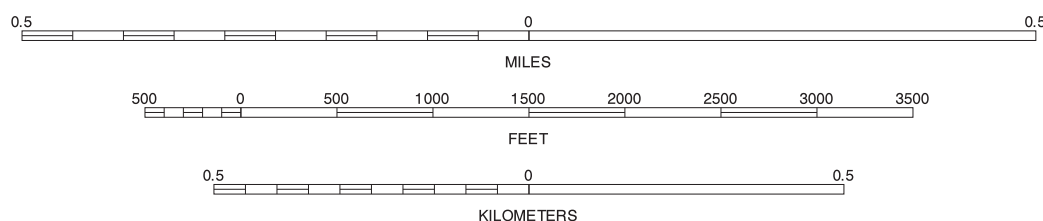
JACKSON PARK SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 61 OF 97

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



		55
	63	
70	71	72

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SAG BRIDGE NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 62 OF 97

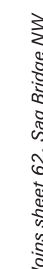
Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.

42200m E

427

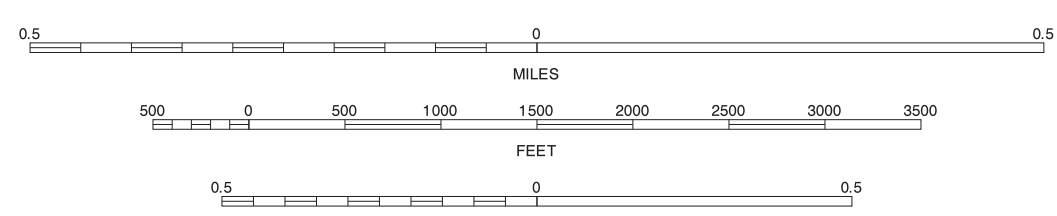
Joins sheet 56
Derwyn SV

Sheet 7
Park SW



Using chart 64 Polys Part MM/

Joins sheet 71,
Sag Bridge SW

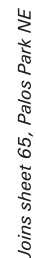


	55	56	55 HINSDALE SE
62		64	56 BERWYN SW
71	72	73	62 SAG BRIDGE NW
			64 PALOS PARK NW
			71 SAG BRIDGE SW
			72 SAG BRIDGE SE
			73 PALOS PARK SW

INDEX TO ADJOINING 3.75 MAPS

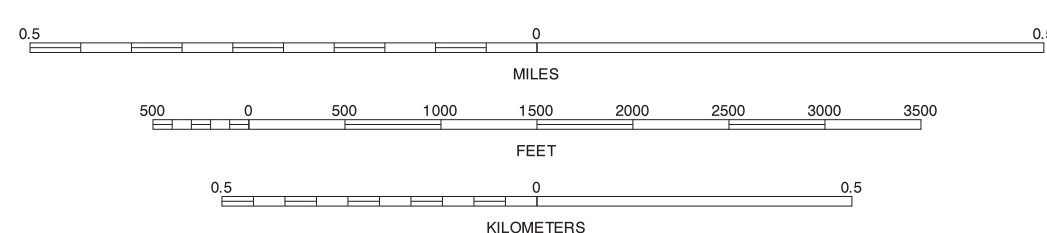
SAG BRIDGE NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 63 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



Joins sheet 72,
Sag Bridge SE

A map of the state of Illinois is shown. To the left of the map is a vertical arrow pointing upwards, labeled "NORTH". A small black dot is located in the northern part of the state, representing the location of the quarter quadrat.



55	56	57	55 HINSDALE SE 56 BERWYN SW 57 BERWYN SE
63		65	63 SAG BRIDGE NE 65 PALOS PARK NE 72 SAG BRIDGE SE
72	73	74	73 PALOS PARK SW 74 PALOS PARK SE

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Joins sheet 7
Palos Park SE

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

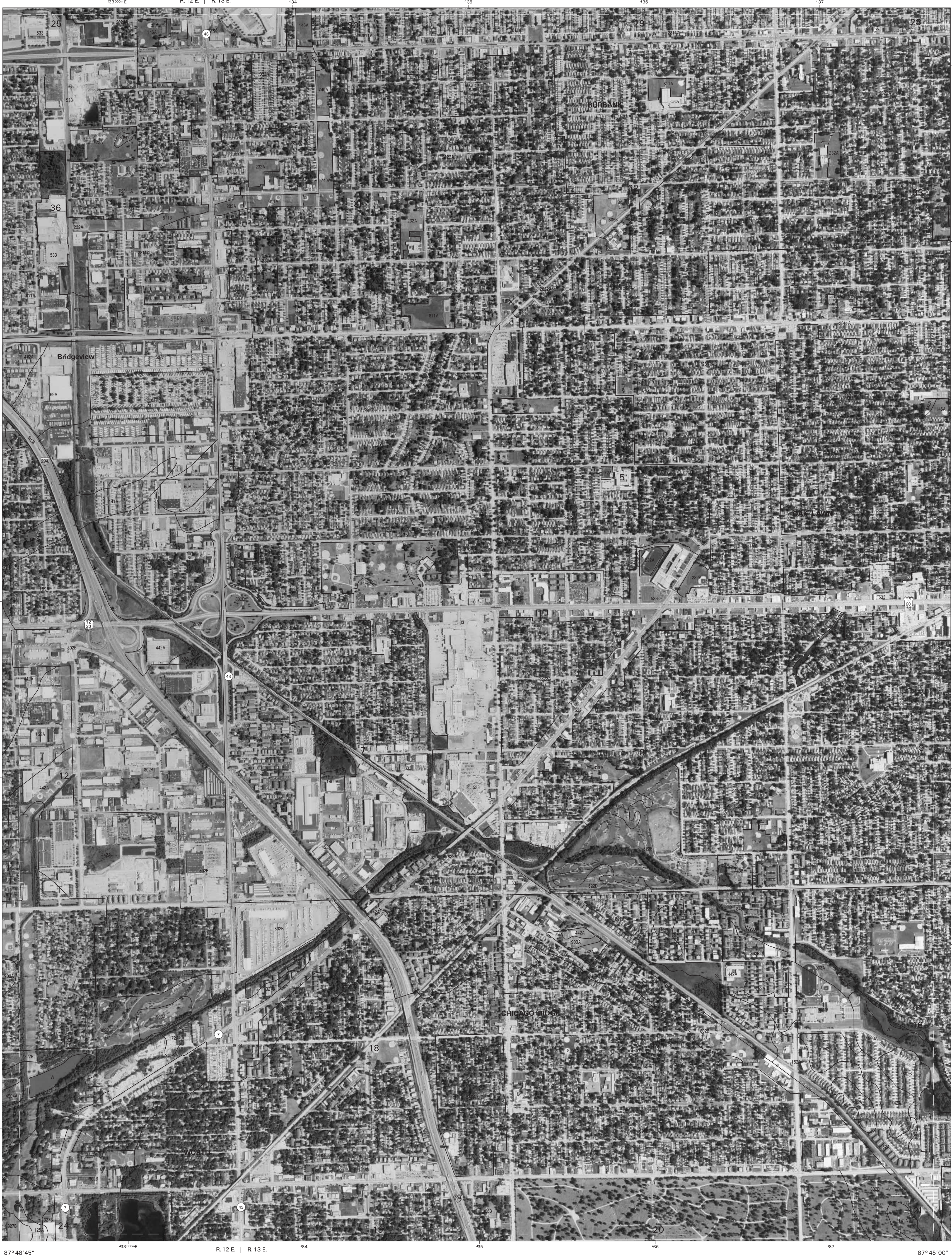
Joins sheet 66, Berwyn SW

Joins sheet 68, Englewood SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

COOK COUNTY, ILLINOIS
PALOS PARK NE QUADRANGLE
SHEET NUMBER 65 OF 97

Joins sheet 57, Berwyn SE



Joins sheet 64, Palos Park NW

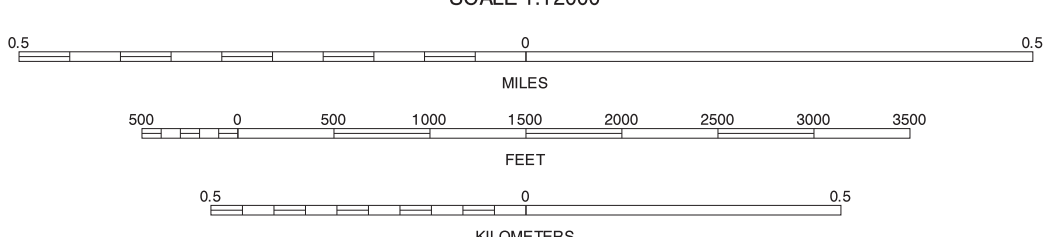
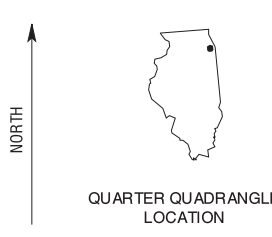
Joins sheet 66, Blue Island NW

Joins sheet 73, Palos Park SW

Joins sheet 75, Blue Island SW

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



56	57	58
64	65	66
73	74	75

INDEX TO ADJOINING 3.75 MAPS

PALOS PARK NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 65 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

Joins sheet 57,
Berwyn SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 45' 00"

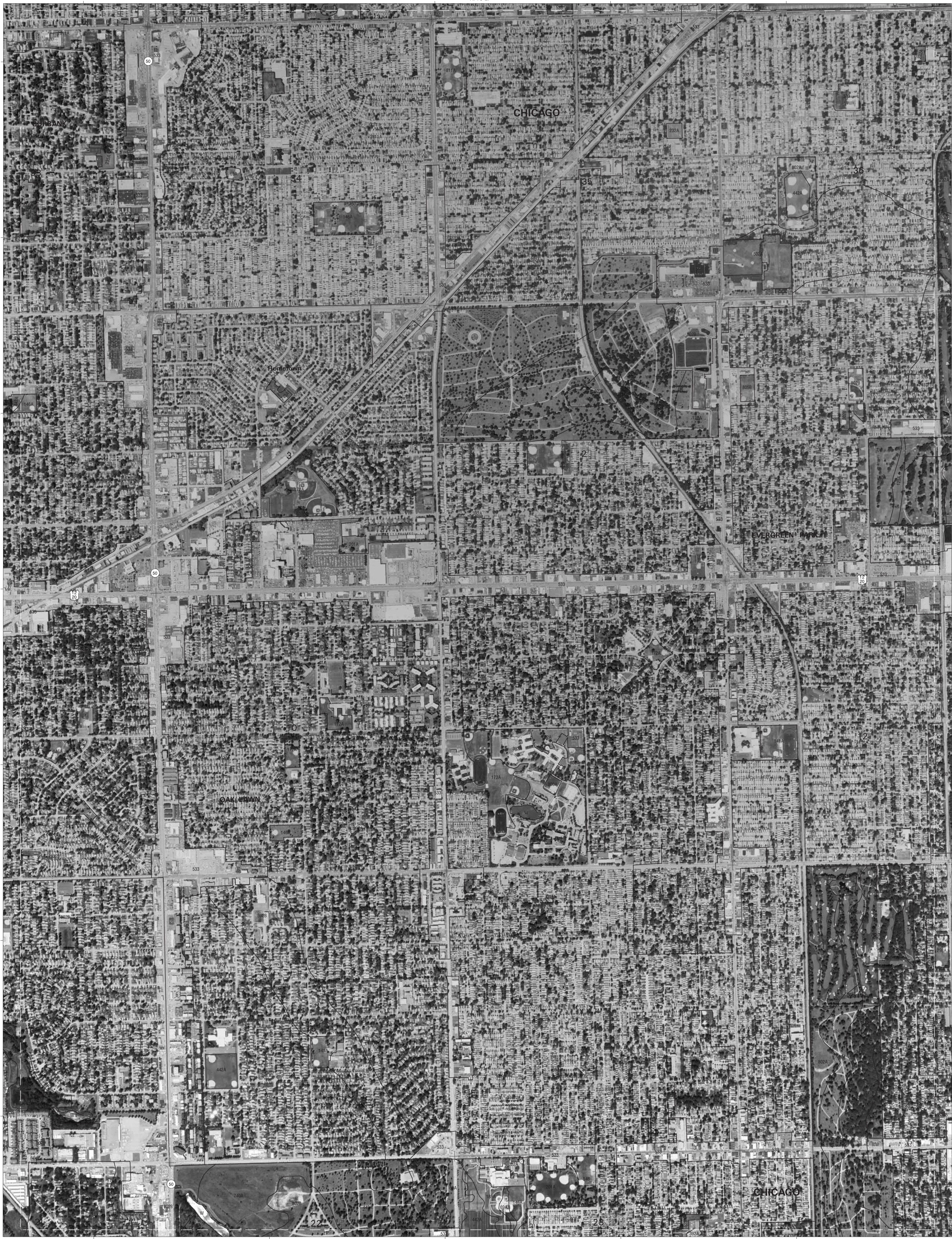
Joins sheet 58, Englewood SW
R. 13 E.

COOK COUNTY, ILLINOIS
BLUE ISLAND NW QUADRANGLE
SHEET NUMBER 66 OF 97
87° 41' 15"

Joins sheet 59,
Englewood SE

Joins sheet 65, Palos Park NE

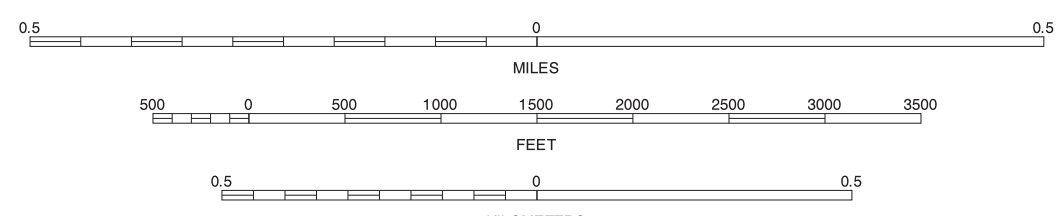
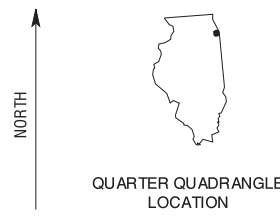
Joins sheet 67, Blue Island NE



Joins sheet 74,
Palos Park SE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



57	58	59
65	66	67
74	75	76

INDEX TO ADJOINING 3.75 MAPS

BLUE ISLAND NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 66 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

Joins sheet 75,
Blue Island SE

Joins sheet 58, Englewood SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 59, Englewood SE

COOK COUNTY, ILLINOIS
BLUE ISLAND NE QUADRANGLE
SHEET NUMBER 67 OF 97

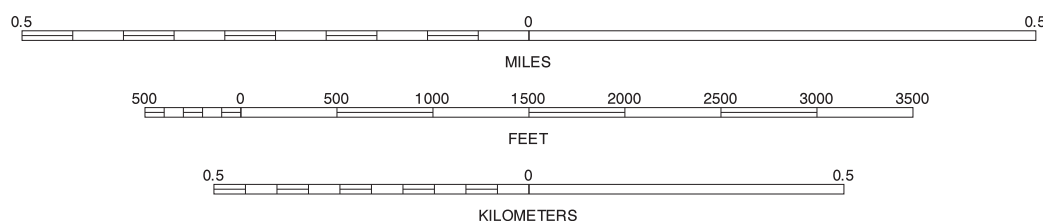
Joins sheet 60, Jackson Park SW



Joins sheet 75, Blue Island SW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



58	59	60	58 ENGLEWOOD SW 59 ENGLEWOOD SE 60 JACKSON PARK SW
66		68	66 BLUE ISLAND NW 68 LAKE CALUMET NW 75 BLUE ISLAND SW 76 BLUE ISLAND SE 77 LAKE CALUMET SW
75	76	77	

INDEX TO ADJOINING 3.75 MAPS

BLUE ISLAND NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 67 OF 97

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.

Joins sheet 77, Lake Calumet SW

Joins sheet 59
Englewood SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

87° 37' 30" E
48 0000 E

Joins sheet 60, Jackson Park SW

COOK COUNTY, ILLINOIS
LAKE CALUMET NW QUADRANGLE
SHEET NUMBER 68 OF 97

R. 14 E. | R. 15 E. 87° 33' 45"

Joins sheet 61,
Jackson Park SE



Joins sheet 76,
Blue Island SE

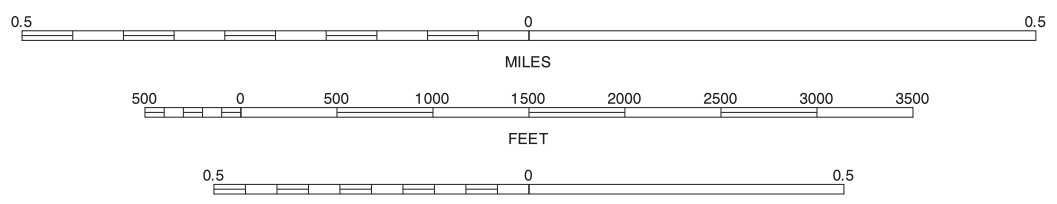
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE
LOCATION



Joins sheet 77, Lake Calumet SW

SCALE 1:12000

59	60	61	59 ENGLEWOOD SE
			60 JACKSON PARK SW
67		69	61 JACKSON PARK SE
			67 BLUE ISLAND NE
76	77	78	69 LAKE CALUMET NE
			76 BLUE ISLAND SE
			77 LAKE CALUMET SW
			78 LAKE CALUMET SE

INDEX TO ADJOINING 3.75 MAPS

LAKE CALUMET NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 68 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 79,
Lake Calumet SE

Joins sheet 60,
Jackson Park SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 33' 45"

Joins sheet 61, Jackson Park SE

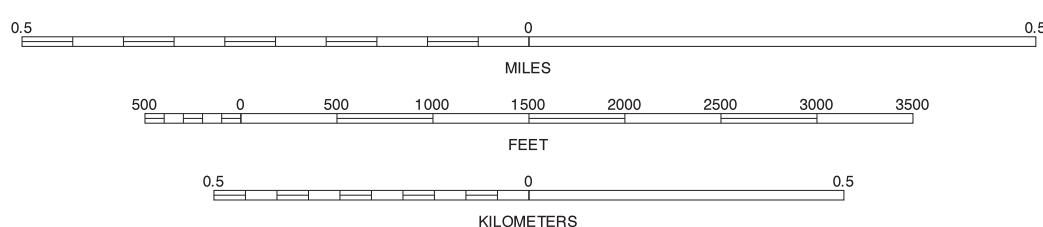
COOK COUNTY, ILLINOIS
LAKE CALUMET NE QUADRANGLE
SHEET NUMBER 69 OF 97
87° 30' 00"



Joins sheet 77,
Lake Calumet SW

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



60	61	60 JACKSON PARK SW 61 JACKSON PARK SE
68		68 LAKE CALUMET NW 77 LAKE CALUMET SW 78 LAKE CALUMET SE
77	78	

INDEX TO ADJOINING 3.75 MAPS

LAKE CALUMET NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 69 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

The image displays three horizontal graphical scales. The top scale is for miles, with a total length of 0.5 miles, marked at 0, 0.1, 0.2, 0.3, 0.4, and 0.5. The middle scale is for feet, with a total length of 3500 feet, marked at 0, 500, 1000, 1500, 2000, 2500, 3000, and 3500. The bottom scale is for kilometers, with a total length of 0.5 kilometers, marked at 0, 0.1, 0.2, 0.3, 0.4, and 0.5. Each scale is represented by a horizontal line with vertical tick marks and numerical labels.

0.5 0

MILES

500 0 500 1000 1500 2000 2500 3000 3500

FEET

0.5 0 0.5

KILOMETERS

62

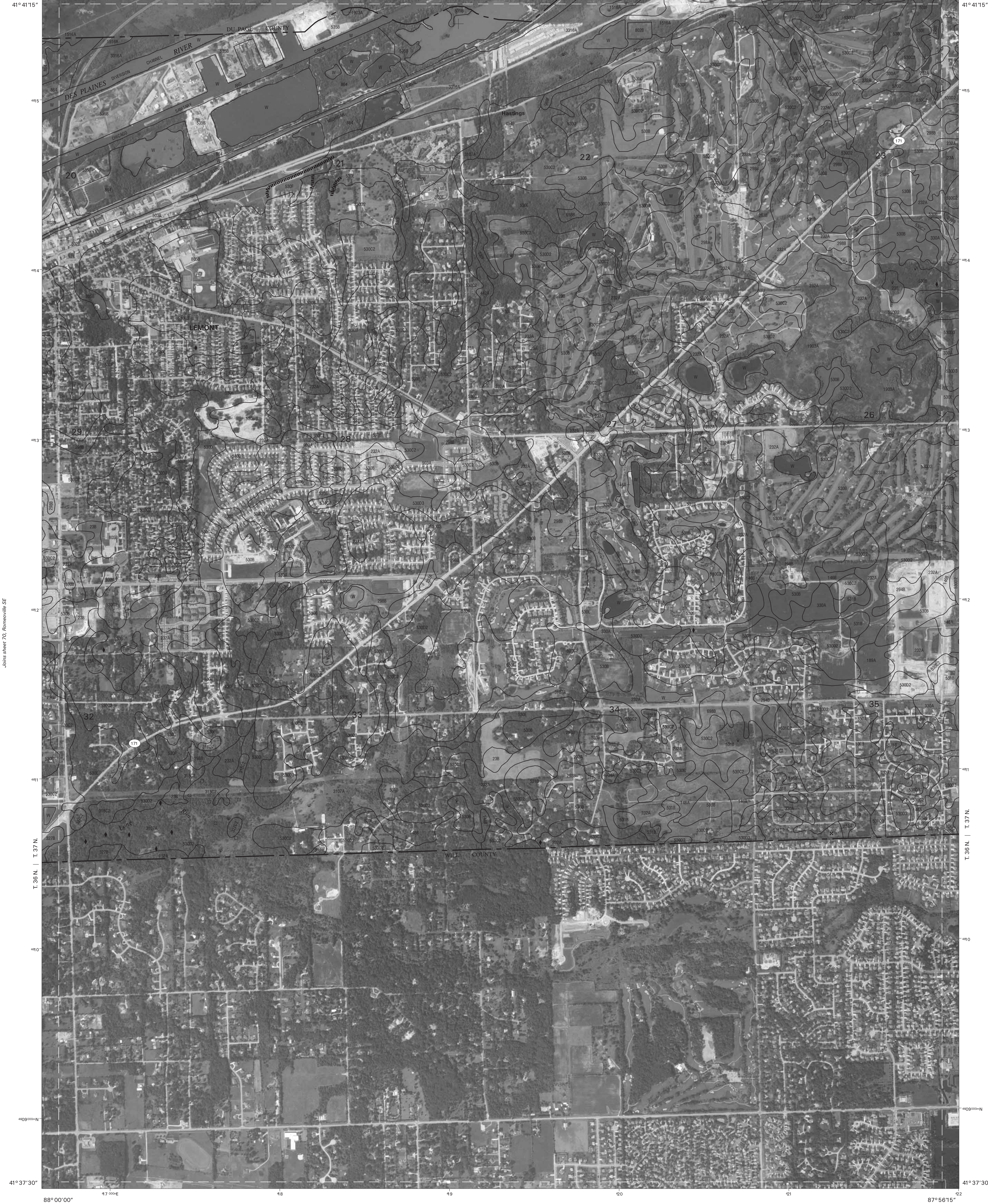
62 SAG BRIDGE NW

71

71 SAG BRIDGE SW

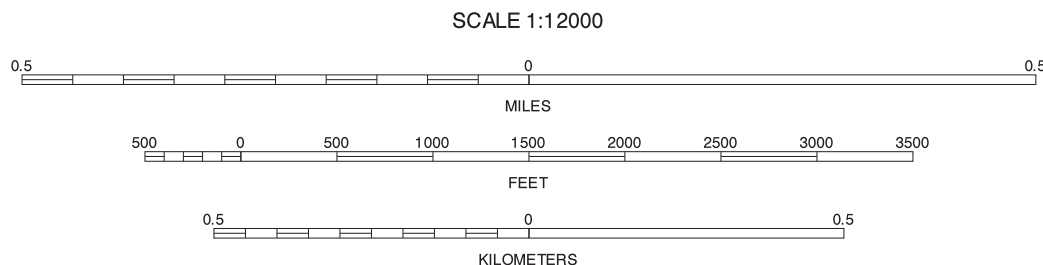
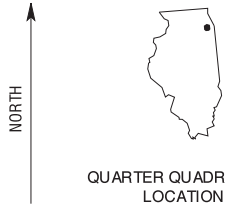
INDEX TO ADJOINING 3.75 MAPS

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



	62	63	62 SAG BRIDGE NW 63 SAG BRIDGE NE 70 ROMEVILLE SE 72 SAG BRIDGE SE
70		72	
		79	79 MCKENNA NE

INDEX TO ADJOINING 3.75 MAPS

SAG BRIDGE SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 71 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 62,
Sag Bridge NW

Joins sheet 64,
Palos Park NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

COOK COUNTY, ILLINOIS
SAG BRIDGE SE QUADRANGLE
SHEET NUMBER 72 OF 97

Joins sheet 63, Sag Bridge NE

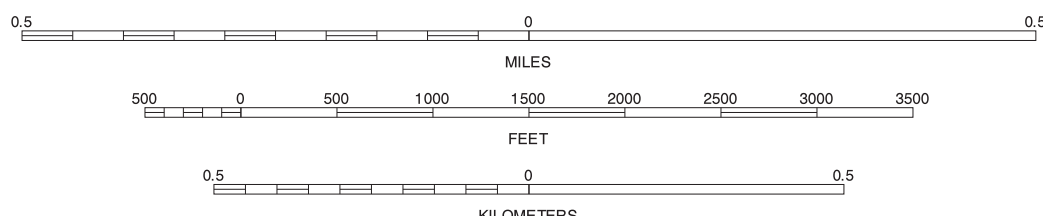
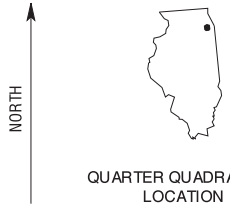
Joins sheet 73, Palos Park SW

Joins sheet 71, Sag Bridge SW



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



62	63	64
71	72	73
79	80	

INDEX TO ADJOINING 3.75 MAPS

SAG BRIDGE SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 72 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 60,
Tampier Park NW

Joins sheet 62,
Sag Bridge NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 52' 30"

Joins sheet 64, Palos Park NW

COOK COUNTY, ILLINOIS
PALOS PARK SW QUADRANGLE
SHEET NUMBER 73 OF 97
87° 48' 45"

Joins sheet 65,
Palos Park NE



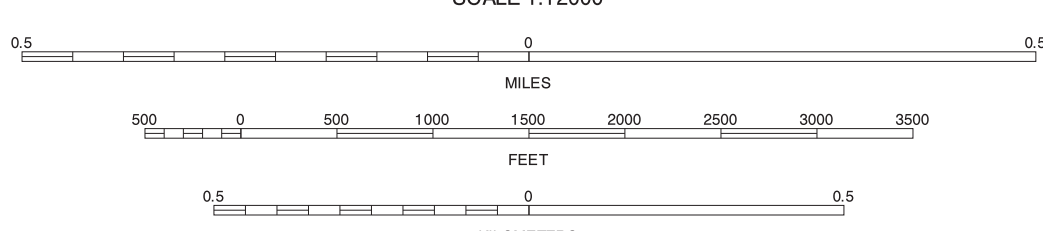
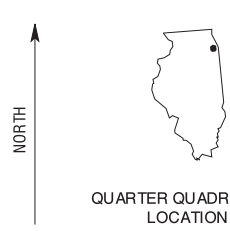
Joins sheet 72, Sag Bridge SE

Joins sheet 74, Palos Park SE

Joins sheet 79,
McKenzie NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



63	64	65	63 SAG BRIDGE NE
72	73	74	64 PALOS PARK NW
79	80	81	65 PALOS PARK NE
			72 SAG BRIDGE SE
			74 PALOS PARK SE
			79 MCKENNA NE
			80 TINLEY PARK NW
			81 TINLEY PARK NE

PALOS PARK SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 73 OF 97

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.

Joins sheet 81,
Tinley Park NE

Joins sheet 64,
Palos Park NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

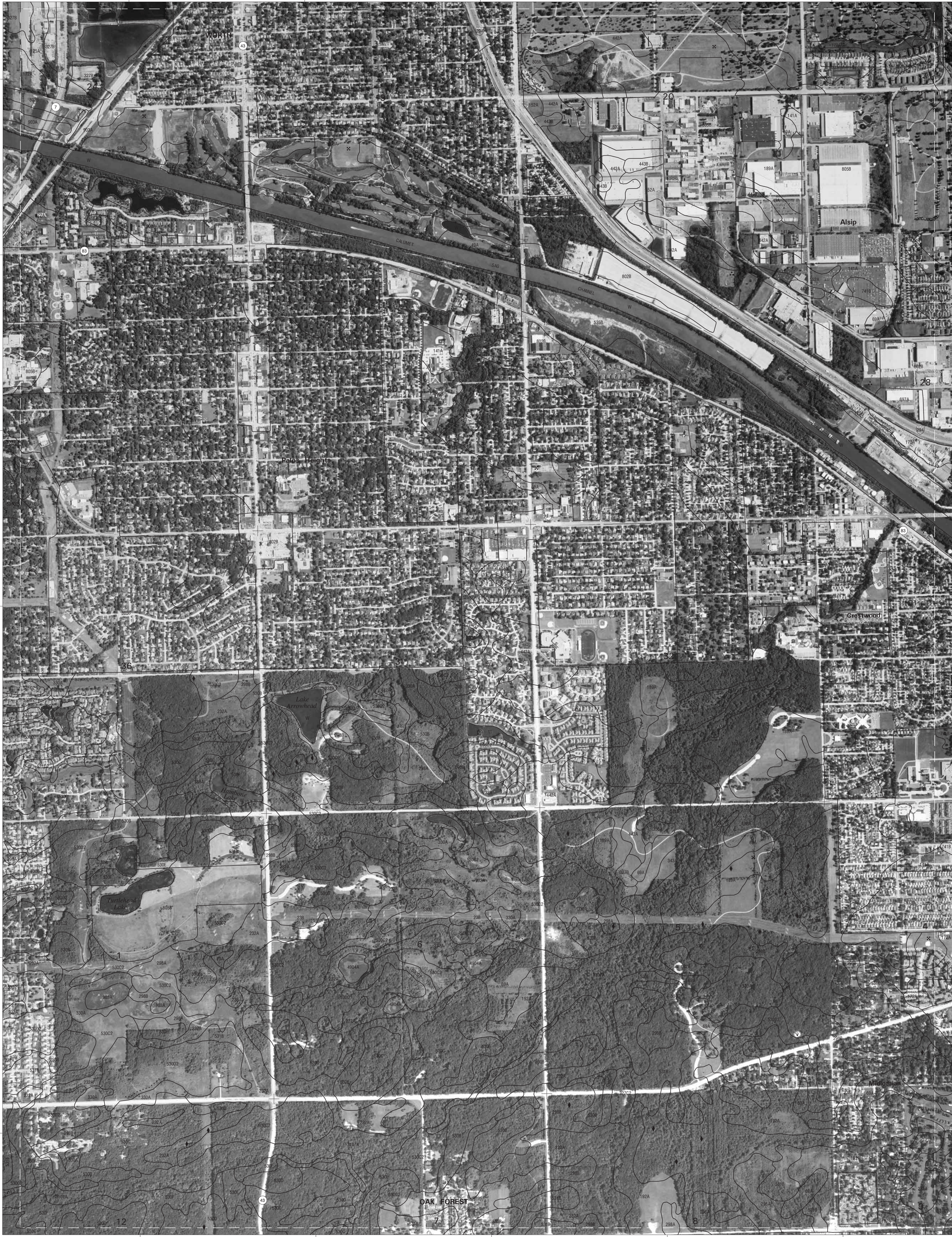
Joins sheet 65, Palos Park NE

COOK COUNTY, ILLINOIS
PALOS PARK SE QUADRANGLE
SHEET NUMBER 74 OF 97

Joins sheet 66,
Blue Island NW

Joins sheet 73, Palos Park SW

Joins sheet 75, Blue Island SW



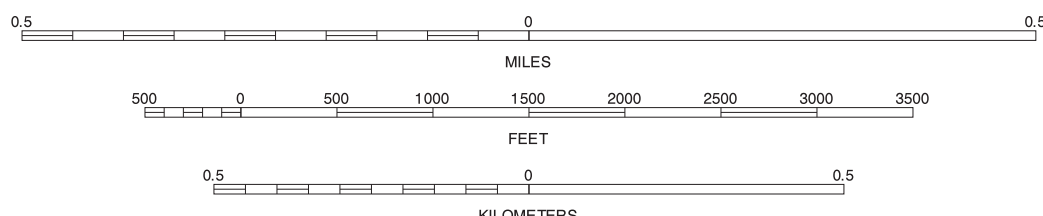
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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE
LOCATION



64	65	66
73	74	75
80	81	82

PALOS PARK SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 74 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Joins sheet 80,
Tinley Park NW

Joins sheet 82,
Harvey NW

Joins sheet 81, Tinley Park NE

Joins sheet 65,
Palos Park NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 45' 00"

Joins sheet 66, Blue Island NW

COOK COUNTY, ILLINOIS
BLUE ISLAND SW QUADRANGLE
SHEET NUMBER 75 OF 97
87° 41' 15"

Joins sheet 67,
Blue Island NE

Joins sheet 74, Palos Park SE

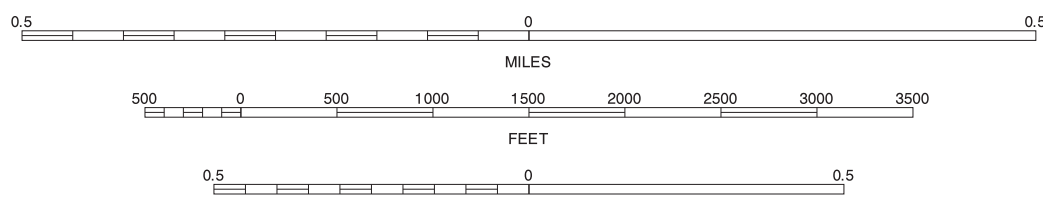
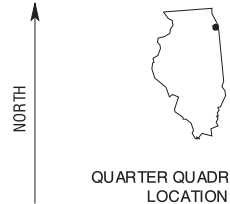
Joins sheet 76, Blue Island SE



Joins sheet 81,
Tinley Park NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



65	66	67	65 PALOS PARK NE 66 BLUE ISLAND NW 67 BLUE ISLAND NE
74		76	74 PALOS PARK SE 76 BLUE ISLAND SE 81 TINLEY PARK NE
81	82	83	82 HARVEY NW 83 HARVEY NE

BLUE ISLAND SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 75 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 83,
Harvey NE

Joins sheet 66,
Blue Island NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

COOK COUNTY, ILLINOIS
BLUE ISLAND SE QUADRANGLE
SHEET NUMBER 76 OF 97

Joins sheet 68,
Lake Calumet NW

Joins sheet 67, Blue Island NE



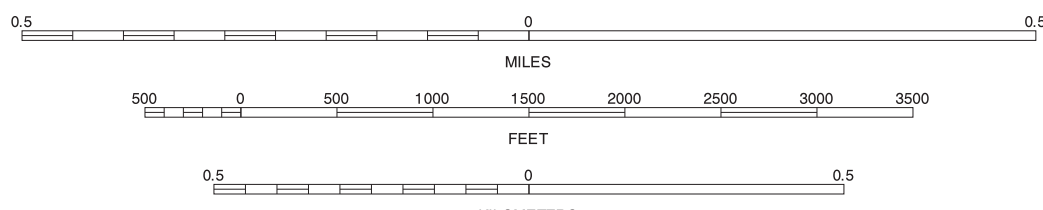
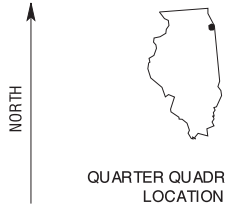
Joins sheet 75, Blue Island SW

Joins sheet 77, Lake Calumet SW

Joins sheet 82,
Harvey NW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



Joins sheet 83, Harvey NE

SCALE 1:12000

66	67	68	69 BLUE ISLAND NW
			67 BLUE ISLAND NE
			68 LAKE CALUMET NW
75		77	75 BLUE ISLAND SW
			77 LAKE CALUMET SW
			82 HARVEY NW
			83 HARVEY NE
82	83	84	84 CALUMET CITY NW

INDEX TO ADJOINING 3.75 MAPS

BLUE ISLAND SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 76 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 84,
Calumet City NW

Joins sheet 72,
Blue Island NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 37' 30" E
48° 00' 00" N

Joins sheet 68, Lake Calumet NW

COOK COUNTY, ILLINOIS
LAKE CALUMET SW QUADRANGLE
SHEET NUMBER 77 OF 97
87° 33' 45" E
41° 41' 15" N

Joins sheet 69,
Lake Calumet NE

Joins sheet 76, Blue Island SE

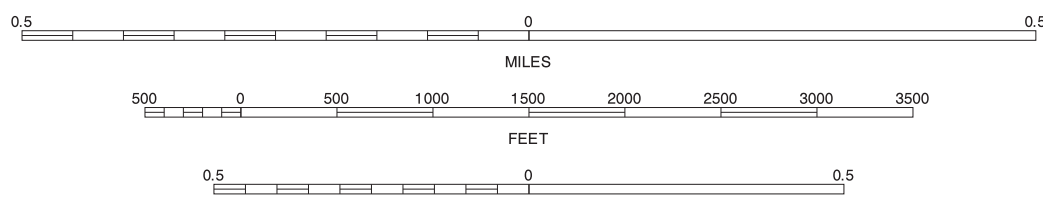
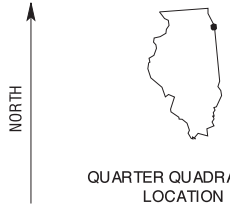
Joins sheet 78, Lake Calumet SE



Joins sheet 83,
Harvey NE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



67	68	69	67 BLUE ISLAND NE
76	77	78	68 LAKE CALUMET NW
83	84	85	69 LAKE CALUMET NE
			76 BLUE ISLAND SE
			78 LAKE CALUMET SE
			83 HARVEY NE
			84 CALUMET CITY NW
			85 CALUMET CITY NE

LAKE CALUMET SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 77 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 85,
Calumet City NE

Joins sheet 66,
Lake Calumet NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 33' 45" R. 14 E. | R. 15 E. 64° 00' 00" E

Joins sheet 69, Lake Calumet NE

COOK COUNTY, ILLINOIS
LAKE CALUMET SE QUADRANGLE
SHEET NUMBER 78 OF 97
87° 30' 00" R. 15 E. | R. 10 W. 64° 00' 00" E

Joins sheet 77, Lake Calumet SW

Joins sheet 84,
Calumet City NW

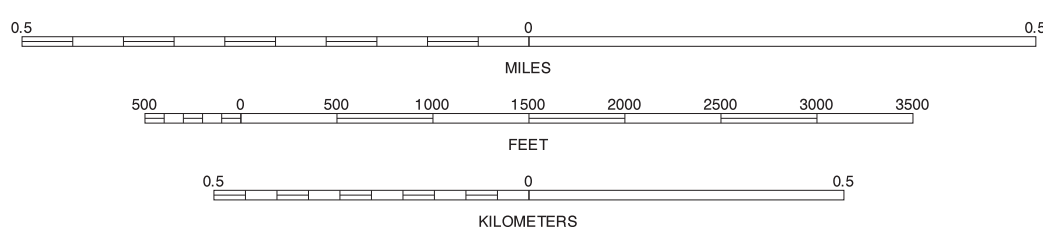
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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE
LOCATION



68	69	68 LAKE CALUMET NW 69 LAKE CALUMET NE
77		77 LAKE CALUMET SW
84	85	84 CALUMET CITY NW 85 CALUMET CITY NE

INDEX TO ADJOINING 3.75 MAPS

LAKE CALUMET SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 78 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



71	72	73	71 SAG BRIDGE SW
			72 SAG BRIDGE SE
		80	73 PALOS PARK SW
	86	87	80 TINLEY PARK NW
			86 MOKENA SE
			87 TINLEY PARK SW

INDEX TO ADJOINING 3.75 MAPS

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Join sheet 72,
Sag Bridge SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87°52'30"

Join sheet 73, Palos Park SW

COOK COUNTY, ILLINOIS
TINLEY PARK NW QUADRANGLE
SHEET NUMBER 80 OF 97
87°48'45"

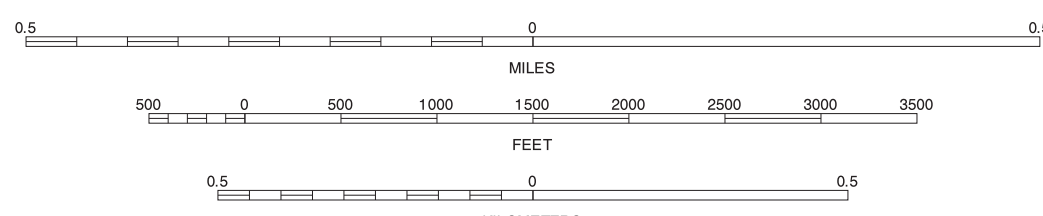
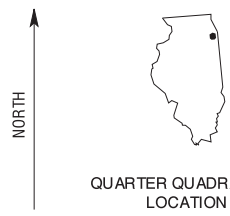
Join sheet 74,
Palos Park SE



Join sheet 86,
Mokena SE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



72	73	74
79	80	81
86	87	88

72 SAG BRIDGE SE
73 PALOS PARK SW
74 PALOS PARK SE
79 MOKENA NE
80 MOKENA SE
81 TINLEY PARK NE
86 MOKENA SE
87 TINLEY PARK SW
88 TINLEY PARK SE

TINLEY PARK NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 80 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Join sheet 89,
Tinley Park SE

Joins sheet 73, Palos Park SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 48' 45"

COOK COUNTY, ILLINOIS
TINLEY PARK NE QUADRANGLE
SHEET NUMBER 81 OF 97
87° 45' 00"

Joins sheet 75, Blue Island SW

Joins sheet 74, Palos Park SE



Joins sheet 80, Tinley Park NW

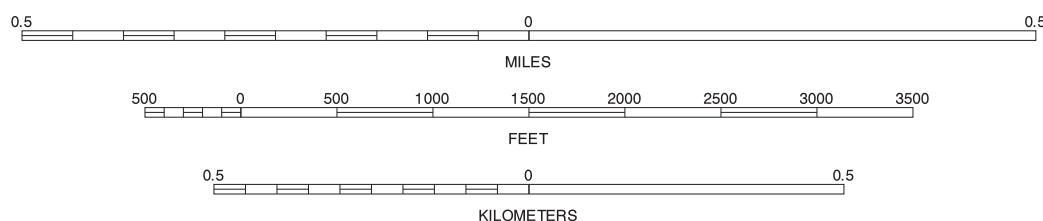
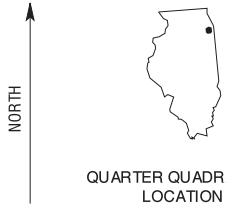
Joins sheet 82, Harvey NW

Joins sheet 87, Tinley Park SW

Joins sheet 89, Harvey SW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



73	74	75
80	82	
87	88	89

INDEX TO ADJOINING 3.75 MAPS

TINLEY PARK NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 81 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Joins sheet 74,
Palos Park SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 45' 00"

Joins sheet 75, Blue Island SW
R. 13 E.

COOK COUNTY, ILLINOIS
HARVEY NW QUADRANGLE
SHEET NUMBER 82 OF 97
87° 41' 15"

Joins sheet 76,
Blue Island SE

Joins sheet 81, Tinley Park NE

Joins sheet 83, Harvey NE

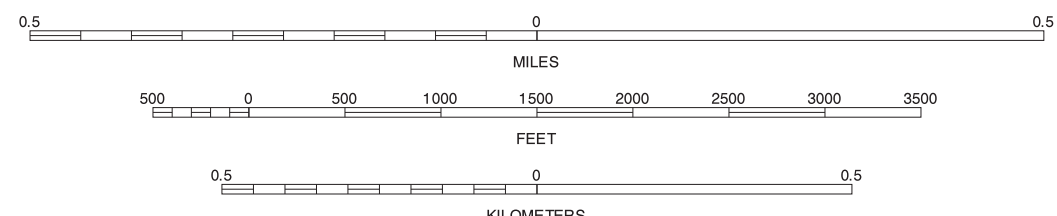
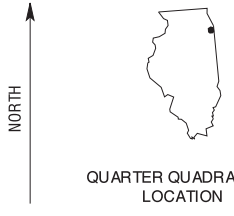


Joins sheet 89,
Tinley Park SE

Joins sheet 90,
Harvey SE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



74	75	76
81	82	83
88	89	90

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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 75,
Blue Island SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 76, Blue Island SE

COOK COUNTY, ILLINOIS
HARVEY NE QUADRANGLE
SHEET NUMBER 83 OF 97

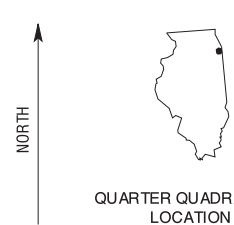
Joins sheet 77,
Lake Calumet SW



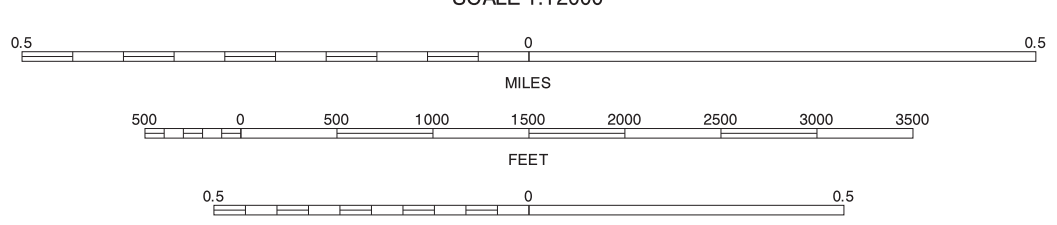
Joins sheet 89,
Harvey SW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE
LOCATION



75	76	77	75 BLUE ISLAND SW
			76 BLUE ISLAND SE
82		84	77 LAKE CALUMET SW
			82 HARVEY NW
			84 CALUMET CITY NW
89	90	91	89 HARVEY SW
			90 HARVEY SE
			91 CALUMET CITY SW

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HARVEY NE, ILLINOIS
3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 91,
Calumet City SW

Joins sheet 76,
Blue Island SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 77, Lake Calumet SW

COOK COUNTY, ILLINOIS
CALUMET CITY NW QUADRANGLE
SHEET NUMBER 84 OF 97

Joins sheet 78,
Lake Calumet SE

41° 37' 30"

41° 37' 30"

Joins sheet 83, Harvey NE

Joins sheet 85, Calumet City NE

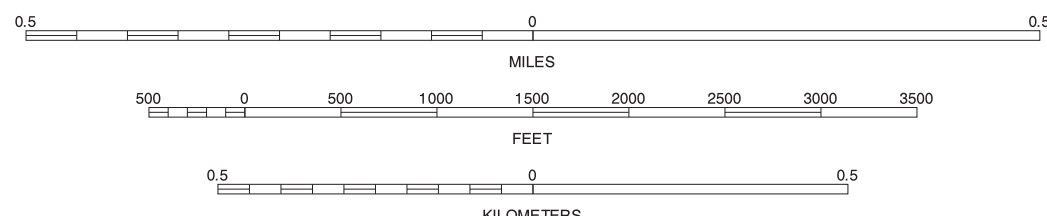
Joins sheet 90,
Harvey SE

Joins sheet 92,
Calumet City SE



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



76	77	78
83	84	85
90	91	92

CALUMET CITY NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 84 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 77,
Lake Calumet SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 78, Lake Calumet SE

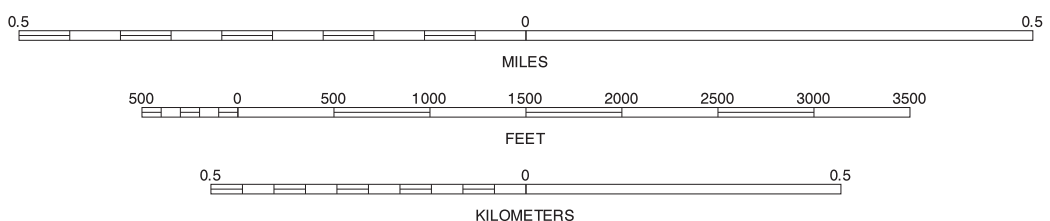
COOK COUNTY, ILLINOIS
CALUMET CITY NE QUADRANGLE
SHEET NUMBER 85 OF 97



Joins sheet 91,
Calumet City SW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



77	78	77 LAKE CALUMET SW 78 LAKE CALUMET SE
84		84 CALUMET CITY NW
91	92	91 CALUMET CITY SW 92 CALUMET CITY SE

CALUMET CITY NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 85 OF 97

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.

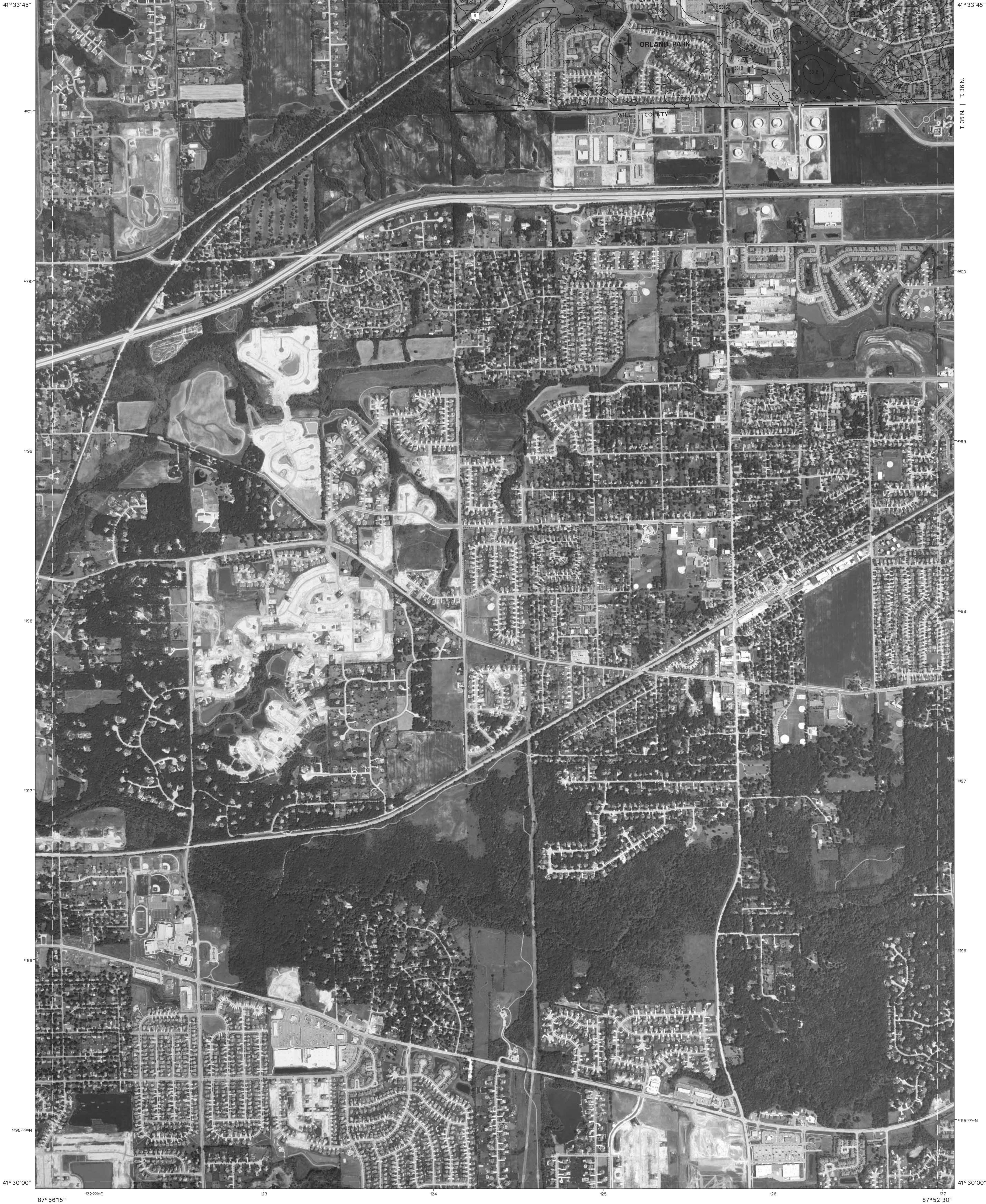
INDEX TO ADJOINING 3.75 MAPS

Joins sheet 79, Mokena NE

Joins sheet 80,
Tinley Park NW

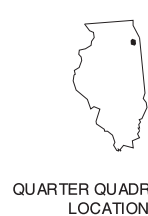
R. 11 E. | R. 12 E.

87°52'30"

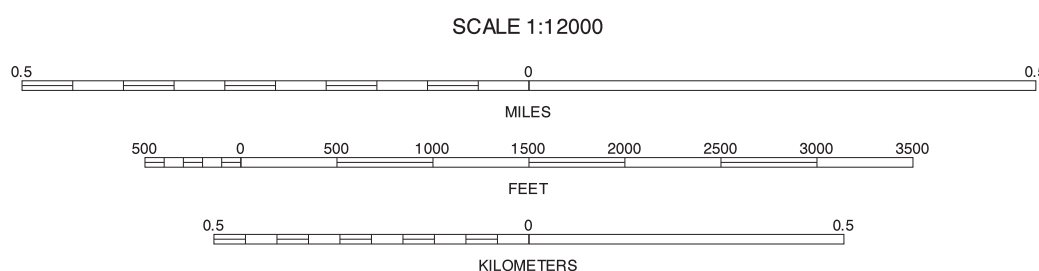


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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE
LOCATION



79	80	79 MOKENA NE 80 TINLEY PARK NW
	87	87 TINLEY PARK SW

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MOKENA SE, ILLINOIS
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SHEET NUMBER 86 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Joins sheet 79,
Mokena NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 80, Tinley Park NW

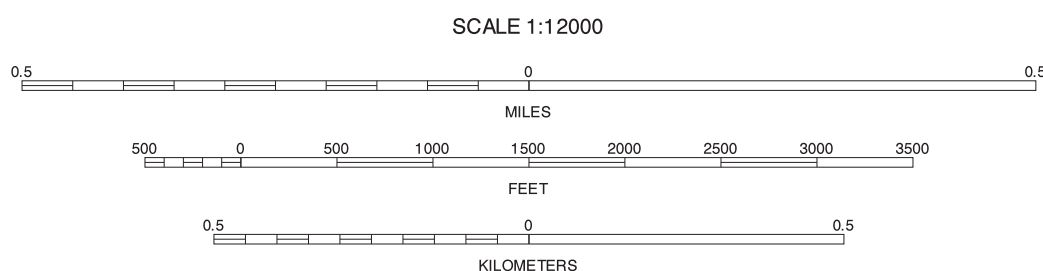
COOK COUNTY, ILLINOIS
TINLEY PARK SW QUADRANGLE
SHEET NUMBER 87 OF 97

Joins sheet 81,
Tinley Park NE



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



79	80	81	79 MCKENA NE
			80 TINLEY PARK NW
			81 TINLEY PARK NE
86		88	86 MCKENA SE
			88 TINLEY PARK SE
		93	93 FRANKFORT NE

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TINLEY PARK SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 87 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Joins sheet 82,
Frankfort NE

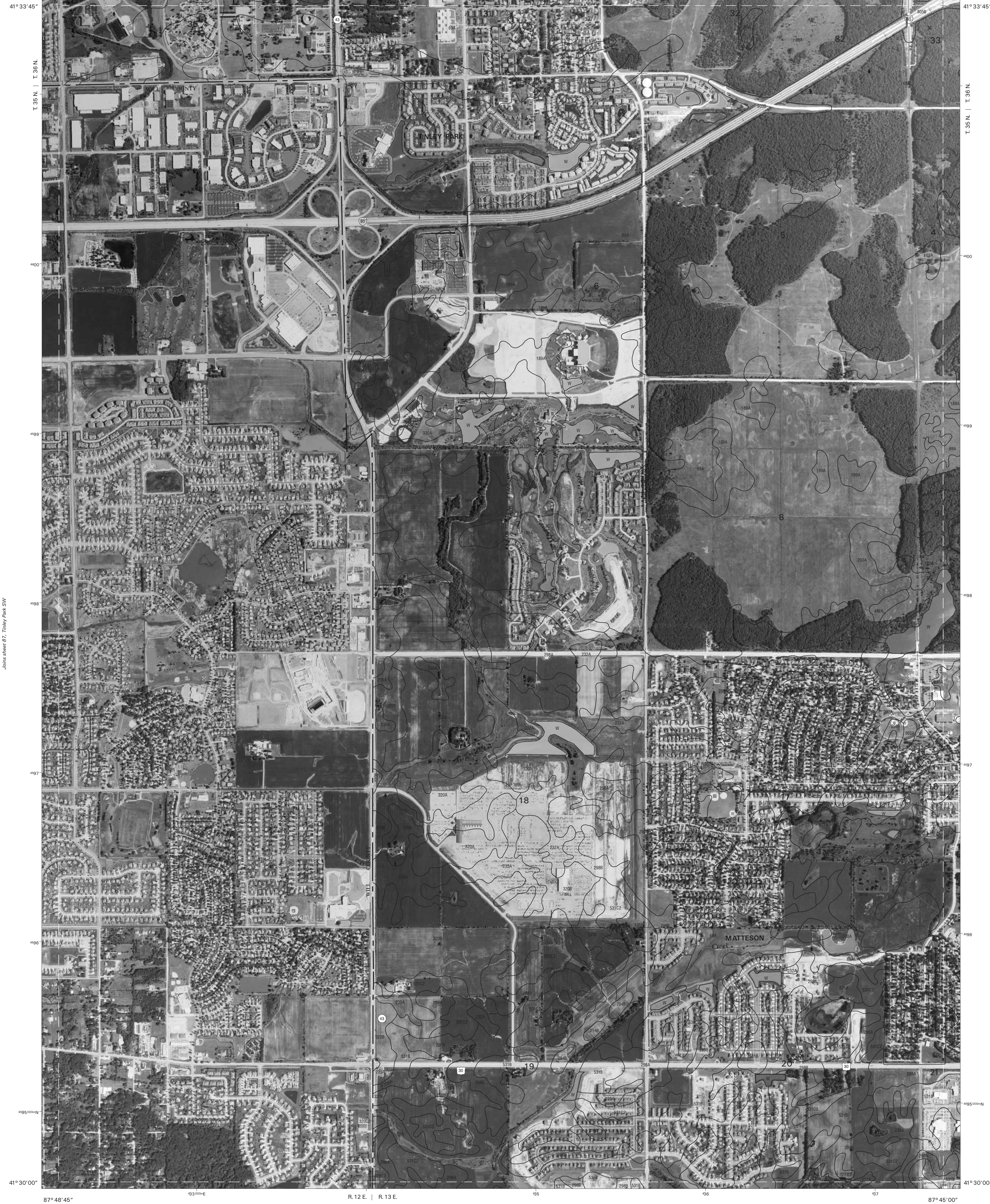
Joins sheet 80,
Tinley Park NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 48' 45"

Joins sheet 81, Tinley Park NE

COOK COUNTY, ILLINOIS
TINLEY PARK SE QUADRANGLE
SHEET NUMBER 88 OF 97
87° 45' 00"

Joins sheet 82,
Harvey NW

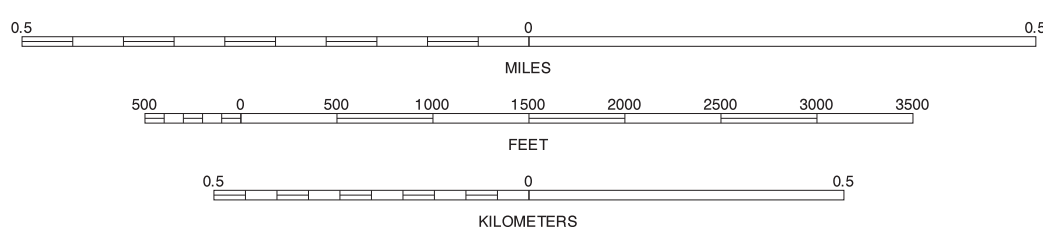


Joins sheet 87, Tinley Park SW

Joins sheet 89, Harvey SW

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



80	81	82	80 TINLEY PARK NW
87	88	89	81 TINLEY PARK NE
			82 HARVEY NW
			87 TINLEY PARK SW
			89 HARVEY SW
			93 FRANKFORT NE
			94 STEGER NW

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TINLEY PARK SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 88 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatlne are for reference only and are included on adjacent map sheets.

Joins sheet 81,
Tinley Park NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 45' 00"

Joins sheet 82, Harvey NW

COOK COUNTY, ILLINOIS
HARVEY SW QUADRANGLE
SHEET NUMBER 89 OF 97
87° 41' 15"

Joins sheet 83,
Harvey ENE

Joins sheet 88, Tinley Park SE

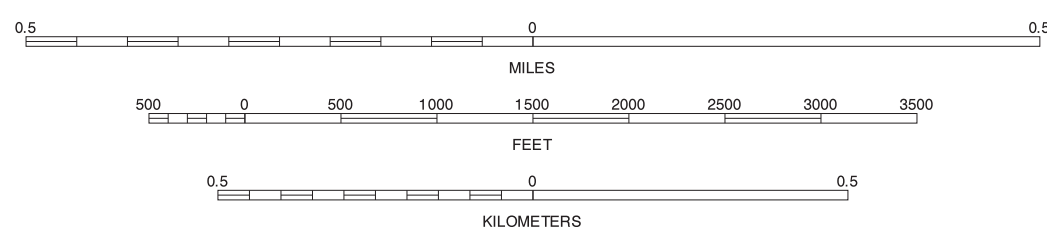
Joins sheet 90, Harvey SE



Joins sheet 83,
Frankfort NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



81	82	83	81 TINLEY PARK NE
			82 HARVEY NW
88		90	83 HARVEY NE
			88 TINLEY PARK SE
			90 HARVEY SE
93	94	95	83 FRANKFORT NE
			94 STEGER NW
			95 STEGER NE

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HARVEY SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 89 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 82,
Harvey NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 41' 15"

Joins sheet 83, Harvey NE

COOK COUNTY, ILLINOIS
HARVEY SE QUADRANGLE
SHEET NUMBER 90 OF 97
87° 37' 30"

Joins sheet 84,
Calumet City NW

Joins sheet 85, Harvey SW

Joins sheet 91, Calumet City SW

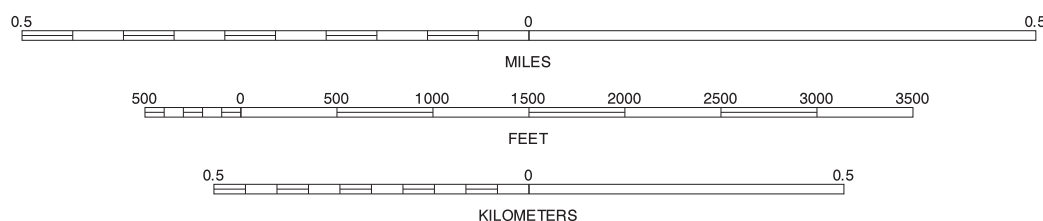
Joins sheet 94,
Steger NW

Joins sheet 96,
Dyer NW



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



82	83	84	82 HARVEY NW
			83 HARVEY NE
			84 CALUMET CITY NW
			89 HARVEY SW
89		91	91 CALUMET CITY SW
			94 CALUMET NW
			95 STEGER NE
94	95	96	96 DYER NW

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HARVEY SE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.

Joins sheet 83,
Harvey NE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 84, Calumet City NW

COOK COUNTY, ILLINOIS
CALUMET CITY SW QUADRANGLE
SHEET NUMBER 91 OF 97

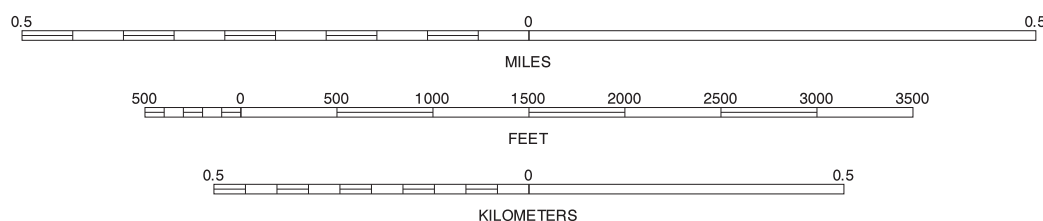
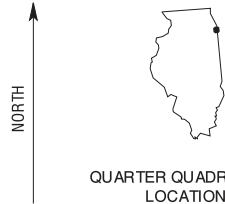
Joins sheet 85,
Calumet City NE



Joins sheet 95,
Steger SE

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



83	84	85	83 HARVEY NE
			84 CALUMET CITY NW
90		92	85 CALUMET CITY NE
			90 HARVEY SE
			92 CALUMET CITY SE
95	96	97	95 STEGER NE
			96 DYER NW
			97 DYER NE

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CALUMET CITY SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 91 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

Joins sheet 92,
Dyer NE

Joins sheet 84,
Calumet City NW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 85, Calumet City NE

COOK COUNTY, ILLINOIS
CALUMET CITY SE QUADRANGLE
SHEET NUMBER 92 OF 97

Joins sheet 91, Calumet City SW

Joins sheet 96,
Dyer NW

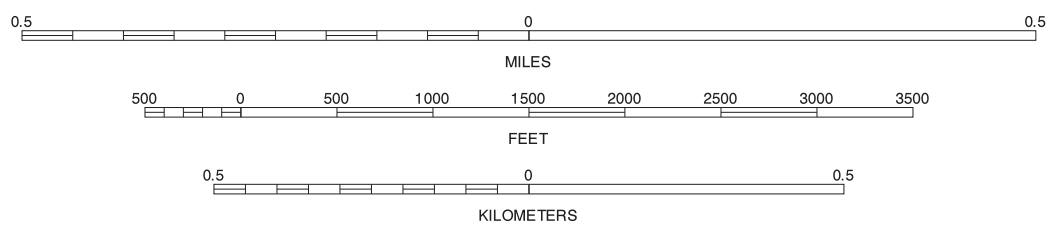
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE
LOCATION



84	85	84 CALUMET CITY NW 85 CALUMET CITY NE
91		91 CALUMET CITY SW
96	97	96 DYER NW 97 DYER NE

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CALUMET CITY SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 92 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

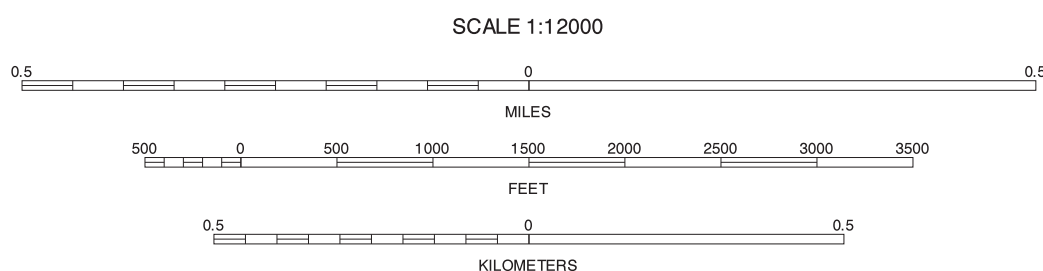


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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE
LOCATION



87	88	89	87 TINLEY PARK SW
			88 TINLEY PARK SE
			89 HARVEY SW
		94	94 STEGER NW

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FRANKFORT NE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

Joins sheet 89, Tinley Park SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 45' 00"

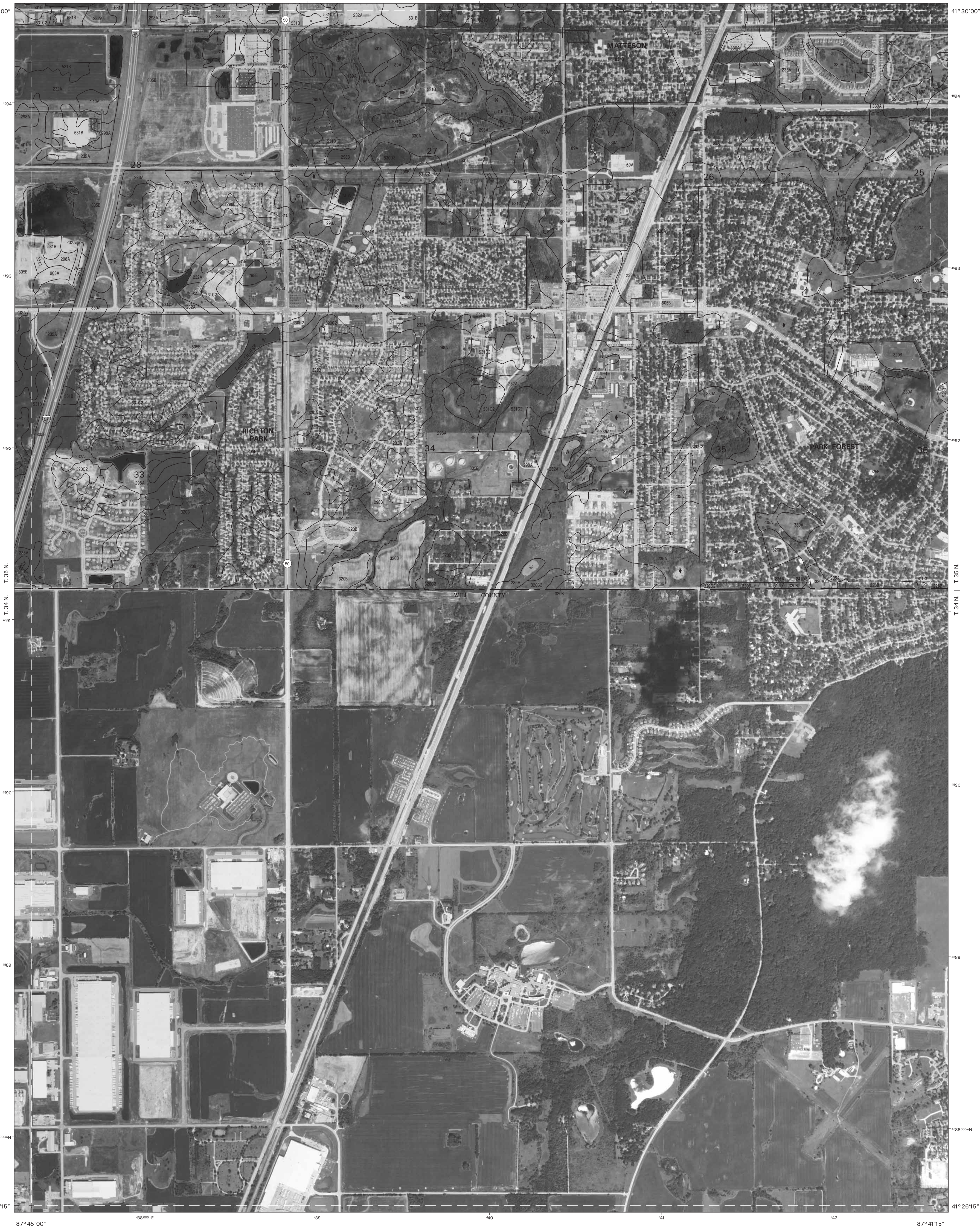
Joins sheet 89, Harvey SW

COOK COUNTY, ILLINOIS
STEGER NW QUADRANGLE
SHEET NUMBER 94 OF 97
87° 41' 15"

Joins sheet 90, Harvey SE

41° 30' 00"

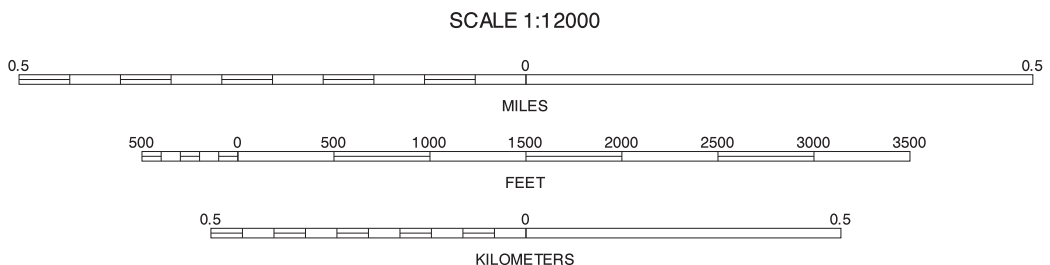
41° 30' 00"



Joins sheet 93, Frankfort NE

Joins sheet 95, Steger NE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.
North American Datum of 1983 (NAD83), GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



88	89	90	88 TINLEY PARK SE
			89 HARVEY SW
93		95	90 HARVEY SE
			93 FRANKFORT NE
			95 STEGER NE

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STEGER NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 94 OF 97

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

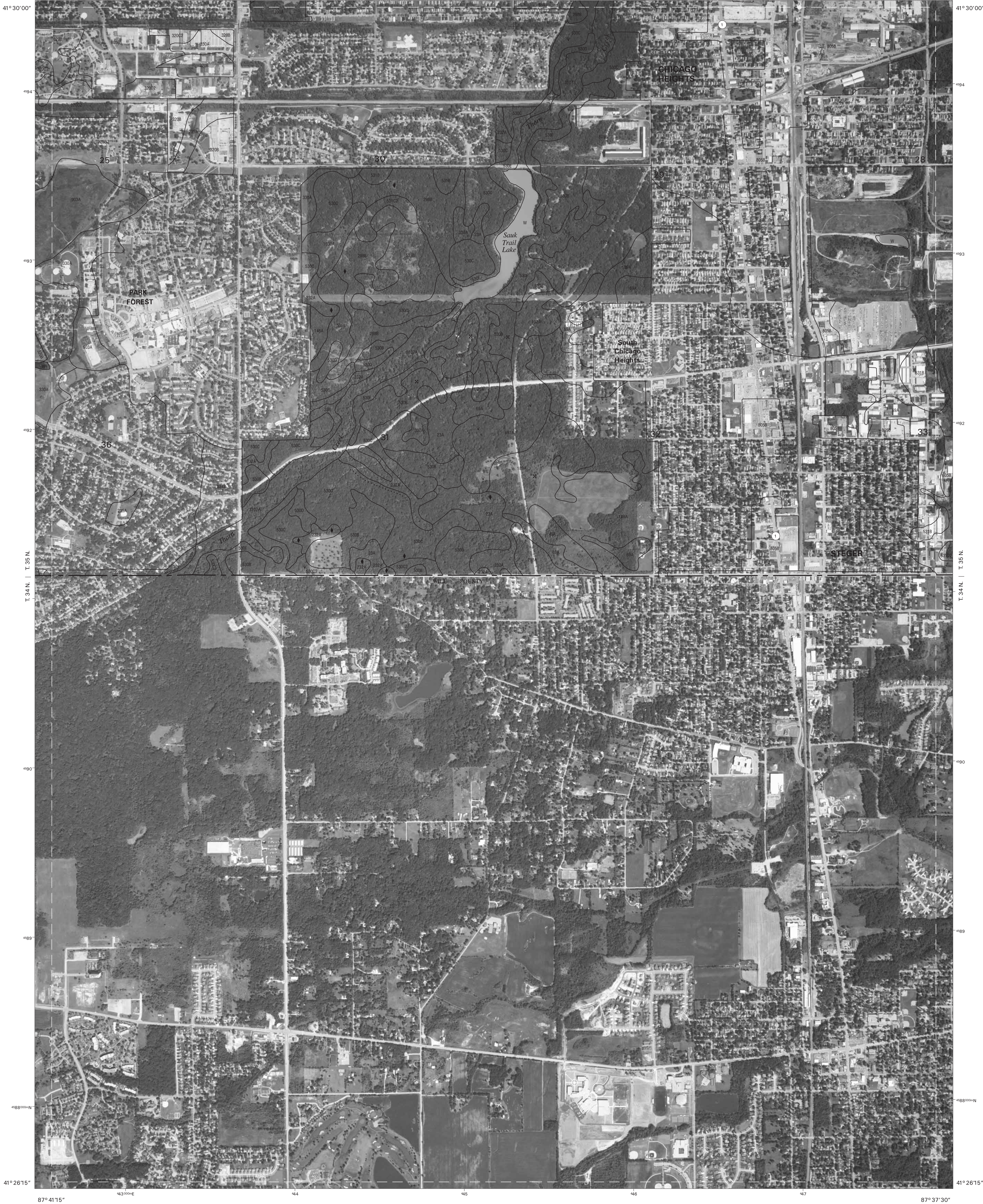
Joins sheet 89
Harvey SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 41'15"

Joins sheet 90, Harvey SE

COOK COUNTY, ILLINOIS
STEGER NE QUADRANGLE
SHEET NUMBER 95 OF 97
87° 37'30"

Joins sheet 91,
Calumet City SW



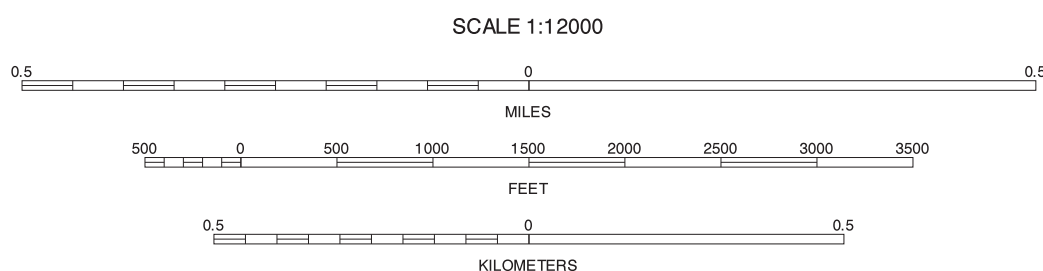
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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE
LOCATION



89	90	91	89 HARVEY SW
			90 HARVEY SE
			91 CALUMET CITY SW
94		95	94 STEGER NW
			96 DYER NW

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STEGER NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 95 OF 97

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

Joins sheet 90
Harvey SE

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
87° 37' 30"

Joins sheet 91, Calumet City SW

COOK COUNTY, ILLINOIS
DYER NW QUADRANGLE
SHEET NUMBER 96 OF 97

Joins sheet 92,
Calumet City SE



Joins sheet 95, Steger NE

Joins sheet 97, Dyer NE

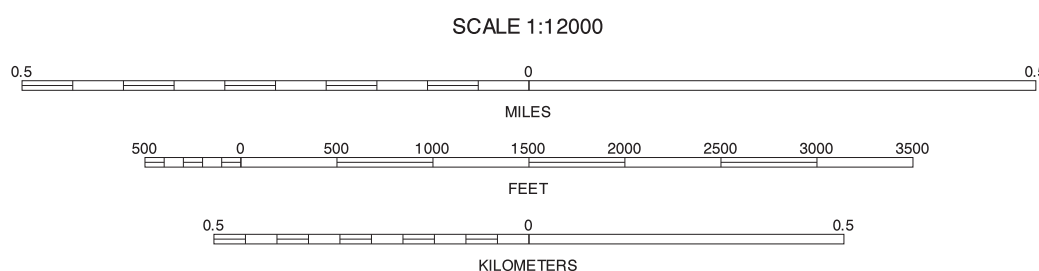
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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE
LOCATION



90	91	92
95	96	97

90 HARVEY SE
91 CALUMET CITY SW
92 CALUMET CITY SE
95 STEGER NE
97 DYER NE

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DYER NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 96 OF 97

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 91 SW
Calumet City SW

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

87° 33' 45"
630000 E

R. 14 E. | R. 15 E.

Joins sheet 92, Calumet City SE

COOK COUNTY, ILLINOIS
DYER NE QUADRANGLE
SHEET NUMBER 97 OF 97

87° 30' 00"

41° 30' 00"

41° 30' 00"



T. 34 N. | T. 35 N.

Joins sheet 96, Dyer NW

41° 26' 15"

41° 26' 15"

87° 33' 45"
630000 E

64

65

66

67

68

87° 30' 00"

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 2007 aerial photography.

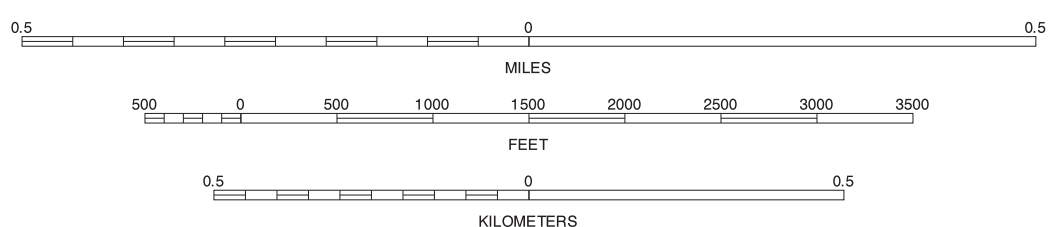
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE
LOCATION

SCALE 1:12000



91	92	91 CALUMET CITY SW 92 CALUMET CITY SE
96		96 DYER NW

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DYER NE, ILLINOIS
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Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.